

NEW BOOKLET AND LEAFLETS

Climax

From the Climax Electrical Refrigeration Co., Clinton, Iowa, comes a folder illustrating the complete line of Climax refrigerating machinery, ranging in size from a model suitable for the apartment house to one of four tons refrigerating capacity. Particular attention is called to the construction of the rotary compressor used in the smaller models.

Schurtz

Refrigeration from gas by the Schurtz System for commercial users is described in a folder sent in by the Campbell Refrigeration Co., 810 Flower St., Los Angeles. While the use of this system with gas is given most attention, the copy states that it may also be used with kerosene or any other flame.

Freezel

The Freezel Corp., Gardner, Mass., has issued a four page folder on Freezel electric refrigeration featuring one model, one price and one policy. A statement of the object in view in the development of this one model is given. This is followed by a page of specifications on the machine. Page four carries a statement to prospective dealers and distributors.

Dry-Zero

Bulletin number 4, entitled "Higher Efficiency in Small Unit Refrigeration," has been received from the Dry-Zero Corporation, 130 North Wells St., Chicago. This booklet gives something of the history of Dry-Zero insulation material and brings its use down to the point where Dry-Zero Pliable Slab is offered to the manufacturer of small refrigerating units. A number of points of interest on insulating materials in general and Dry-Zero insulation in particular are brought out.

Ice-Berg

From the Berg Manufacturing Co., Gardner, Mass., has been received a twenty-page book on frozen delicacies which have been tested in the Ice-Berg Refrigerator. Another leaflet issued by the same company shows four different models of household refrigerators, also the chilling tanks and compressing units used in these cabinets. Five cards of about seven by nine inches, each carrying a large size illustration of one unit, household type, were also included. The Ice-Berg water cooler was presented in similar form.

American Radiator

An elaborate loose-leaf catalog has been received from the American Radiator Co., Industrial Division, 816 South Michigan Avenue, Chicago. This catalog is devoted to American Refrigerating Sections and contains detailed descriptions and diagrams showing various types of installation both commercial and domestic. A number of photographs of installations now in use are included.

F. B. Riley

A file folder has been received from F. B. Riley and Associates, sales and engineering representatives, 320 Beaubien St., Detroit. Included in this folder are a number of sheets carrying descriptive material and illustrations on standard refrigeration appliances manufactured by the Fedders Mfg. Co., Buffalo, N. Y., for which F. B. Riley and Associates are representatives. Section one is devoted to the Fedders Air-Way condensers, illustrating a number of different models and giving capacities and other data in regard to each. Section number two devoted to the Chil-Fast brine tanks, also includes photographs and specifications. Section three gives the same information on Fedders Chil-Rite float evaporators and section four on Fedders expansion valves, liquid filters, liquid receivers, and ice pans.

"Your paper is filling a real need and I look forward with more than usual interest to its publication each issue."—H. A. Adams, manager, home equipment division, Wayne Co., Chicago.

Subscription Order

BUSINESS NEWS PUBLISHING CO.
554 MACCABEES BLDG.
DETROIT, MICH.

Gentlemen:

Please enter my subscription to **ELECTRIC REFRIGERATION NEWS**, the Business Newspaper of the Electric Refrigeration Industry.

United States: ☐ \$1.25 per year ☐ Two years for \$2.00.
Foreign Countries: ☐ \$1.50 per year.

I am enclosing payment in the form of

☐ Check ☐ P. O. Order ☐ Cash ☐ Stamps

Name _____

Street Address _____

City and State _____

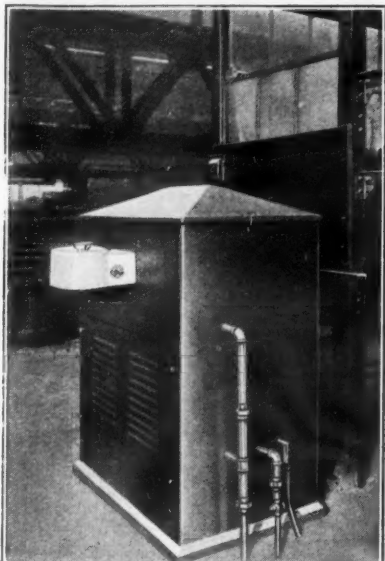
Remarks: _____

☐ NOTE: If it is inconvenient for you to enclose payment with this order, check this square and invoice will be mailed. Do it now, while you have the blank before you. It will save the time and trouble of writing a letter and you will be sure to get the next issue.

EBINGER DEVELOPS SPECIAL COOLER

The coming of cold weather instead of diminishing the manufacture of water coolers in the D. A. Ebinger Sanitary Supply Co., Columbus, Ohio, has caused the development of a water cooler for outdoor installations and for poorly heated buildings as are found in the steel mills.

The need in the Pittsburgh mill dis-



tribut of drinking water that is kept within a certain range of temperatures all the year, brought a recent order for 200 Ebinger water coolers equipped for freezing weather.

These water coolers, like the one shown in the illustration above, have cork insulation around all valves, fittings and the compressor compartment. This insulation can be readily removed in warmer weather.

ENGLISH WOMEN ENGINEERS LAUNCH POWER COMPANY

Electrical engineering as a career for women is being sought after in England, where women are launching out "on their own" as engineers, according to an Associated Press dispatch from London. Miss Catherine Haslett, secretary of the Women's Engineering Society, is organizing a company to provide rural and farming districts in England with electric current for lighting and domestic uses.

The new company, with a capital of \$125,000, has a directorate composed entirely of women. Miss Haslett will be president, Mrs. L. A. Wilson first-class electrical engineer, and Miss M. Partridge, a builder and electrical contractor, will be in the firm.

FARM ELECTRIFICATION

Farm electrification in New York State increased 18 per cent in 1926.

Self-styled "superpower experts," overlooking this result produced in a progressive manner upon a sound economic basis by the utility companies of the state, paint a glowing picture, designed to show how the benefits of electric service would immediately fall like a magic mantle upon the people of the state if the government would only enter the power business.

Will the government also provide the appliances which are the means of making electric service useable? Not every man who is able to buy a tank full of gasoline is necessarily able to buy the automobile in which to use it.—*Power Events.*

Commonwealth Brass Announces Promotion of Peter Tazelaar

The Commonwealth Brass Corporation announces that Peter Tazelaar, who for the past eight years has represented this company in New York territory, has been promoted to the position of sales manager. Mr. Tazelaar is now located at the home office in Detroit.

REQUESTS FOR INFORMATION

The following inquiries have been received by **ELECTRIC REFRIGERATION NEWS**. Readers who can supply information on these subjects are invited to write at once, referring to the Query number.

Query No. 44. As subscribers to your publication, "ELECTRIC REFRIGERATION NEWS," we should appreciate it if you could furnish us with some information in connection with an inquiry we have received from one of our clients in South America. This client is interested in installing various automatic bars for the supply of glasses of a special wine on inserting coins in the mechanism, similar to the well-known soda fountains but on a smaller scale. The equipment should comprise a suitable tank for holding about 100 litres of wine, this to be maintained at a temperature of 5° C. by means of a suitable refrigerating equipment operated electrically and controlled automatically; two coin operated outlets would be sufficient for each equipment. We understand that the Serval Co. furnish a machine somewhat on the lines of that above referred to, for the supply of orange juice. We shall much appreciate any information you are able to furnish in connection with such outfits, together with the names of manufacturers whom you would recommend us to approach.

Query No. 45. "I have developed an electric refrigeration machine and have secured some very valuable patents on various parts. The machine can be built for about \$32. Have had two machines over a year and am now ready to offer the machine for someone to manufacture and sell.

"In view of the fact that I am out of touch with the manufacturing centers, I am wondering if you can put me in touch with parties who would be interested in what I have."

"PLEASE CHANGE MY ADDRESS"

Recent movements of Electric Refrigeration News subscribers as indicated by requests for changes in mailing addresses.

Cheatham, H. A., from Cleveland, O., to 1411 Magnolia Bldg., Dallas, Texas.

Clark, E. R., from 3315 Main St., Houston, Texas, to 1418 Englewood St., Dallas, Texas.

Grover, L. E., from Jefferson, Iowa, to 206 Linn St., Boone, Iowa.

Hufnagel, A. A., from 908-914 G. St., N. W., Washington, D. C., to 4823 Illinois Ave., Washington, D. C.

Ludington, Ralph R., from the Rex Mfg. Co., Connersville, Ind., to c/o Shelton, Lexington Ave. and 49th, New York City.

Magoon, W. E., from 408 25th Ave., San Francisco, to 5216 Miles Ave., Oakland, California.

Phillips, J. G., from Serval Corporation, to c/o Campbell Refrigeration Corp., 127 Washington Blvd., Los Angeles, Calif.

Renaud, Paul F., from 1532 St. Charles Ave., to 1001 Camp Street, Frigidair Corporation, New Orleans, La.

Russell, Amos E., 33 Hudson Ave., Albany, N. Y., to 749 Boylston Street, Boston, Mass.

Tinkey, Otto G., from 6344 Walnut St., to 205 North Highland Ave., Pittsburgh, Pa.

Wilkinson, H. M., from Hotel Lenox, New York City, to c/o Stanley & Patterson, 150 Varick St., New York City.

Ziegler, T. J., from 1508 Lytleton St., Camden, S. C., to 160 N. Treadwell St., Orangeburg, S. C.

PLYMETAL REFRIGERATOR CO. TO ASSEMBLE CABINETS

Incorporation of the Plymetal Refrigerator Co., 225 N. Michigan Ave., Chicago, operating under an assemblers' agreement with the Haskellite Manufacturing Co., Grand Rapids, Mich., to construct exclusively for the Chicago district refrigerators for household use with either ice or electric refrigeration, has just been announced.

We would like to see every member of our organization in this district a subscriber of **ELECTRIC REFRIGERATION NEWS**, especially our dealers and their salesmen. If you will send us a supply of subscription order blanks for individual subscriptions, the writer will be glad to see that some of them at least are turned into subscribers.—W. M. Wattle, manager Wholesale Division, Kelvinator Cleveland Co., Cleveland.

KERO TEST

FORGED BRASS VALVES for Mechanical Refrigeration

Quality Shut-off and Cylinder valves in any standard designs or to your specifications.

KERO TEST MANUFACTURING CO.
2525 LIBERTY AVENUE
PITTSBURGH, PENNA.

COPELAND DEALERS AND DISTRIBUTORS APPOINTED IN OCT.

Copeland Sales Co., Detroit, announces the appointment of the following distributors and dealers during the month of October:

Distributors

The Butt-Smith Corp., 116 Bank St., Norfolk, Va.

The Cooke-Wilson Co., Charleston, W. Va.

Phil H. Pierce Co., Inc., 1805 Commerce St., Dallas, Texas.

Dealers

Paul L. Routt, Lawrenceburg, Ky.

Frier Hardware Co., Louisiana, Mo.

Wm. W. Maxwell, 1018 S. Franklin St., Mt. Pleasant, Mich.

George C. Slagle, Frederick, Md.

Windsor Garage, Inc., Windsor, Conn.

The F. S. Bidwell Co., Windsor Locks, Conn.

Suburban Service System, Oak Lane, Philadelphia, Pa.

Berman Electric Co., 1233 W. Baltimore St., Baltimore, Md.

The Floyd Co., Inc., Charles and 20th, Baltimore, Md.

Broadway Electric Co., 318 S. Broadway, Baltimore, Md.

Wilkins Electric Co., 5215 Fifth Ave., Pittsburgh, Pa.

Government Report Says 250,000 Units Installed in 1926

The U. S. Department of Commerce has issued a report to the effect that more than 250,000 electric refrigerators were installed in American homes last year as compared to only 55,000 in 1925, and that it is expected that by the end of the present year half a million more will be in use. The report continues with the statement that 2.4% of the country's homes are equipped with electric refrigerators, while 58% of all homes are wired for electricity. A detailed record of the current consumption of domestic refrigerators was recently completed by the Department. It showed an average monthly use of 69 kilowatt hours. Nine-four units in actual use in homes were tested throughout a full year in making this survey, states the report.

Service Man Turns Poet

The poet laureate of the service department of the Electric Refrigerator Company of New England, 733 Boylston St., Boston, comes forth with the following:

The G. E. Germ Killer

I never saw an ice-box yet
Too cold for germs to meet and pet;
So shocking is their moral state
That germs who pet must propagate!
May I enlist you in a cause
That seeks the spread of moral laws
Among the germs that haunt your food,
By chilling them to virtue's mood?
Come, join our G. E. Owners' Club
And give the germs a proper snub!
Monsieur Arcy D'oooooy.

WAGNER MOTORS FOR ELECTRIC REFRIGERATION

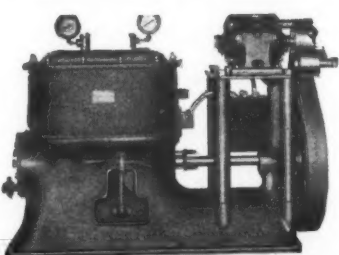
Wagner Small Motors meet the refrigeration standard—mechanically quiet—built to close tolerances. Available in ratings from 1/2-hp. to 1 1/2-hp.

TEN PROMINENT USERS

Frigidair Corp. U. S. Air Compressor Co.
Kelvinator Corp. Duro Pump Co.
Universal Cooler W. B. Wilde Co.
Iron Mountain Co. Lipman Refrigeration Co.
Merchant & Evans American Blower Co.



WAGNER ELECTRIC CORPORATION
6400 Plymouth Avenue St. Louis U. S. A.



ELECTRIC REFRIGERATION DISTRIBUTORS AND DEALERS

You need the **PEERLESS** line of commercial units.

PEERLESS units give you a **COMPLETE** line, ranging from 1 to 10 tons.

Fifteen years of successful manufacturing and merchandising of ice machines are behind the **PEERLESS** name. Our record warrants your most exacting investigation.

WRITE OR WIRE

PEERLESS ICE MACHINE CO.

503-531 S. Jefferson St.
CHICAGO, ILL.

THE CONDENSER

A CLASSIFIED COLUMN OF OPPORTUNITY

REPLIES to box number advertisements should be addressed to Electric Refrigeration News, 554 MacCabees Bldg., Detroit, Mich.

ADVERTISING RATES—this column only:

POSITIONS WANTED (special rate if paid in advance): 50 words or less, one insertion, \$2.00, additional words 4 cents each. Three insertions, \$5.00.

POSITIONS AVAILABLE, For Sale, Business Opportunities, and all other classifications (special rate, if paid in advance): 50 words or less, one insertion, \$3.00, three insertions \$8.00, additional words 5 cents each.

LINE RATE (open account): 50 cents per line.

POSITIONS WANTED

National service and educational director, ten years' successful experience with some of the largest manufacturers, at present employed, desires connection with strong growing concern. Capable of organizing and taking complete charge of national or division service, preparing service or sales manuals, educational program, parts price list, etc. Favorably known throughout the trade. Box No. 58.

Chief Engineer available, connected with leading electric refrigeration concerns past eight years. Inventor and owner of patents on thermostat, control and seals. Well acquainted with patent situation. Experienced designing engineer. Box No. 52.

Sales Executive desires new connection December, or January 1st. Excellent record on sales and sales organization. Prefer distributorship, or branch management on west coast or middle west. Box 54.

FOR SALE

Factory buildings, machinery, tools, patterns for commercial machine. Equipment practically new. Will sell on time payment or lease. No objection to accepting stock in another company for entire assets, or consolidating with another company, putting in additional capital, if desired. For further information address J. F. Brown, 209 Lee St., Zanesville, Ohio.

Nebraska Distributor Changes Name

Gerstenberger, Inc., 138 South 15th Street, Lincoln, Nebr., distributor for General Electric refrigerator, has filed articles recently changing the name of the corporation to the Midwest Refrigeration Company. The following officers will continue with the corporation: H. F. Bochner, president; M. O. Gerstenberger, secretary; and L. A. Gerstenberger, manager.

REFRIGERATION PATENTS

Available and classified for ready reference, I have a very complete history of the published, unpublished, patented and non-patented art of refrigeration and can furnish therefrom accurate data respecting any new idea, or development.

I have contacts with engineers and attorneys all over the world specializing in refrigeration and can secure information from these and other sources having an important bearing on the validity and scope of many patents. I know the patent situation from 15 years practical contact therewith.

To those attempting to create patent situations I offer a specialized graphic charting service of inestimable value and can submit for purchase applications of interest from clients here and abroad which will aid materially in completing any situation in this field.

Engineers and Inventors having inventions to dispose of will find it advantageous to communicate with me.

Through associates abroad I am able to dispose of foreign rights to U. S. inventions and can initiate manufacturing and sales contacts, particularly in England and Germany. I have requests from concerns abroad wishing manufacturing rights to machines that are fully developed here.

In furnishing Reports, Opinions, etc., I bring to the work an experience of over twenty years as a successful manufacturer and engineer in addition to over fifteen years experience as a registered Patent Attorney.

H. R. VAN DEVENTER

342 Madison Avenue
New York

ELECTRIC REFRIGERATION NEWS

The business newspaper of the electric refrigeration industry

VOL. 2, No. 7, SERIAL No. 31

DETROIT, MICHIGAN, DECEMBER 7, 1927

Entered as second class matter August 1, 1927, at the Post Office, Detroit, Michigan.

PRICE TEN CENTS

BIECHLER GREETED BY WINNING SALESMEN AT WELCOME HOME DINNER

E. G. Biechler, president and general manager of Frigidaire Corp., and the Delco-Light Co., who returned recently from a two months' business tour of Europe, was greeted at a welcome home dinner in New York City on November 30 by Frigidaire salesmen from all parts of the United States.

Executives of the organization from Dayton were present when the Leviathan decked, to greet Mr. Biechler and his party. The welcome home event was held at the McAlpin Hotel.

Salesmen attending this dinner were presented the trip to New York as a result of a two months' contest conducted during Mr. Biechler's absence. Mr. Biechler's trip abroad was for the purpose of checking foreign business conditions and planning for the extension of the Frigidaire foreign organization in 1928.

In reference to electric refrigeration in Europe, Mr. Biechler said: "The effects of electric refrigeration industry's invasion of Europe are very marked in every section of the continent. The business is as old in Europe as it is here, but little progress was made until Frigidaire took control over there. Since then there has been a general stimulating of interest and the rapidity with which Frigidaire is being installed, even in Scotland, is very significant to us. In eight months 25% of the butcher shops in Edinburgh have contracted for such equipment, buying it merely to save themselves money."

\$62,410.50 SALES IN THREE WEEKS MADE BY KELVINATOR MAN

During the first three weeks of November, in a contest now being conducted by Kelvinator, Inc., Detroit, W. C. Watkins, of Collins-Kelvinator Corp., Los Angeles, sold \$62,410.50 worth of apartment house installations, according to an announcement made by the company. This means that 783 additional apartments are now using Kelvinators in Los Angeles.

Two Kelvinator men in Chicago are also rated among the leaders. H. H. Siff sold \$27,784 worth of commercial equipment during the first three weeks of the contest, and G. Stadeker sold 50 individual household units totaling \$7,107.75.

Two reasons have been given by the company for the growth in holiday sales this year in comparison with those of previous years. The first of these is the constantly growing realization by housewives that refrigeration is a necessity the year round and that electric refrigeration is the proper solution to the problem. A second reason is the introduction of the colored cabinet to fit in with the present trend toward the use of color in the kitchen. It is also stated that the reception of these cabinets so far indicates that they are very popular as Christmas gifts.

SERVEL REORGANIZATION PLAN NOW OPERATIVE

The reorganization plan for Servel Corp. and subsidiaries has been declared operative, the reorganization committee announced recently. George W. Davidson, chairman of the committee, has called for payment of all remaining installments payable under participation warrants and purchases certificates issued under the plan.

Further deposit of securities will be received only at the discretion of the committee. To the extent that additional stock of the Servel Corp., and of the Servel Corp. of New York is received on deposit, depositors will be required to pay at the time of deposit, in addition to the installment then due, interest at the rate of 6 per cent.

The announcement states that of the claims shown on the August 4, 1927, balance sheet there has been subjected to the reorganization plan, over 90 per cent in amount of the Servel Corp. and over 85 per cent in amount of the Servel Mfg. Co. More than 50 per cent of the Servel Corp. common stock and over 99 per cent of the stock of the Servel Mfg. Co. has been deposited.

LEADING Refrigerator manufacturers use Monel Metal screws with Monel Metal trim.
Write for details to
The International Nickel Company (Inc.)
New York, N. Y.
MONEL METAL

South Carolina Hardware Dealer Attracts Trade With Electrically Refrigerated Drinking Fountain



Customers of the Austin Hardware Co., Seneca, South Carolina, were invited to drink "the coldest water in town." The cooler, installed near the door, is a great attraction and a good advertisement for electric refrigeration.

Can the Hardware Dealer Successfully Merchandise Electric Refrigeration?

Established Positions in the Community a Big Advantage but the Adoption of Specialty Selling Methods Usually Necessary to Build Volume Sales

REFRIGERATION A LIFESAVER FOR HARDWARE STORE

"No Dull Days Since We Took On Electric Refrigeration"

By Archie Richardson

One rainy, disagreeable day last spring when customers and debtors alike were sticking around their home fires, a little group was sitting in the store of the Austin Hardware Co., Seneca, South Carolina, talking hard times and wondering what was going to become of everybody.

The conversation drifted from one subject to another and finally touched on electrical refrigerators. Then it flashed into the mind of W. L. Austin, the proprietor, that here was a line of much promise that was not being sold in his territory. He promptly left the goods box on which he had been sitting as he held down his end of the hard times discussion, went to the telephone and called the Greenville distributor of the line of refrigerators that most appealed to him and in a few minutes from the time the matter had been first mentioned he had made arrangements for a representative to call on him.

Two days later the man came and within fifteen minutes after his arrival a contract was signed whereby the Austin store was to handle these refrigerators in Seneca and nearby towns.

Finds Success From the Start

The hard times discussion has never been resumed. Since they started to selling refrigerators, everybody has been too busy. The loafers who amble in have to talk something more interesting than hard times to get more than a few minutes of the time of Mr. Austin or his salesmen. Mr. Austin declined to give any figures

(Continued on Page 5, Column 1)

Interviews with hardware men who have found the line profitable.

THIS STORE HAS HAD SIX YEARS' EXPERIENCE

By Madelain Thomas

Mr. Schuele, of the Bomar-Summers Hardware Co., of Louisville, Ky., one of the largest retailers of hardware in the South, does not consider electric refrigeration as seasonal merchandise. He is convinced that the best way to sell this line is by constant, consistent advertising. Mr. Schuele depends principally on local newspaper space to interest the public in electric refrigeration, but also makes free use of window displays and illuminated billboards in strategic positions.

After a prospect has called at the store, his interest is further stimulated by direct advertising, either mailed or given to the prospect. This direct material ranges from attractive post cards illustrated in color, each bearing a crisp statement of the advantages of that particular brand of electric refrigerator, to elaborately illustrated booklets on iced dishes. To obtain these booklets, prospects are obliged to send a postal, thus enabling Bomar-Summers to acquire an accurate mailing list of prospects. All through this advertising, cleanliness, beauty and ease of making frozen dishes is stressed.

One point that should appeal greatly in these days of bird cage bungalows and small houses generally, is the fact that it is possible to buy an electric refrigerator for a small space.

This firm handles both self-contained machines and units for remote installations, and sells them either for cash or on a time basis. They also extend the three months' free service promised by the manufacturers to one year's free service to all purchasers of their refrigerators.

Bomar-Summers have sold electric refrigerators for six years, and each year their sales have shown a gratifying increase over those of the year before.

DIRECT MAIL WITH PERSONAL CANVASS GETS THE ORDERS

Old Hardware Firm Works Its Prospect List

By Charles P. Rodman

The Milton Rogers & Sons Co. was established as a hardware store back in 1855 and has been doing business in Omaha ever since. This makes this firm the oldest, by far, in the city. During all those years the Rogers & Sons Co. has been rather in advance of the general business. Anything new that was of real value was to be found in this store.

This being the general policy, it was just natural for the firm to tie up with electric refrigeration. Last May R. R. Farquar came to the firm and took over the electric refrigeration department. The Zerozone machine is sold. The company is distributor for all that part of Nebraska north of the Platte river and the western third of Iowa. At the present time but two salesmen are used in Omaha. Mr. Farquar plans to increase these to seven by March 1, next year. It is also planned to increase the territorial agents to at least forty by March 1.

Mr. Farquar finds electric refrigeration good business for the hardware store, and will push it even more in the Spring, when the new home supply department is inaugurated. In this department it is now planned to have electric refrigeration, water softeners, electric washers, radio, and electric irons. He will have charge of the department. The articles named will all be sold by personal solicitation. Mr. Farquar plans to use the already established trade to the fullest extent.

The store has been in operation so long that it has a large list of people who are

(Continued on Page 3, Column 1)

A. S. R. E. ELECTS GEORGE B. BRIGHT NEW PRESIDENT

W. H. Carrier, Retiring President, Predicts Homes Will Be Cooled Electrically

Approximately 120 members of the American Society of Refrigerating Engineers met at the Astor Hotel, New York City, on Monday, December 5, to open the annual meeting of that organization, which continued through Tuesday and Wednesday. George B. Bright, of Detroit, was elected president of the A. S. R. E. parent organization for 1928, to succeed W. C. Carrier. Mr. Bright was born in Staunton, Va., in 1833, and operated an ice plant in that city until 1906. Since then he has worked in several phases of the refrigeration field. He has been a consulting engineer in Detroit since 1917.

The main attention of the first day's session went to educational and research activities as typified by the paper by Prof. E. F. Burton, of Purdue University, who outlined the specifications for an ideal laboratory and gave his census of present courses on research in refrigeration. Prof. E. Berry, head of the refrigeration department at the Massachusetts Institute of Technology, also gave a talk emphasizing the importance of fundamental theory in this field.

W. H. Carrier, president of the Carrier Engineering Co., gave an inspiring address touching on several phases of the industry. He foresees great progress for the refrigeration industry and expects that both commercial and domestic refrigeration will be

(Continued on Page 2, Column 1)

WOODBIDGE REPORTS CONSERVATIVE SALES PROGRAM FOR 1928

On his return to Detroit from New York, on December 1, C. King Woodbridge, president Electric Refrigeration Corp., stated that Kelvinator is in a stronger position than at any time during the past year.

"The budget for next year has just been approved," he said, "and it contains a healthy yet conservative sales program for 1928."

"The constructive period through which Kelvinator has been going is characteristic of any new and rapidly growing organization."

"Kelvinator, Nizer and Leonard were combined to form Electric Refrigeration Corporation only 18 months ago. Last year we did \$20,000,000 worth of business. Any corporation which has been formed for only 18 months could certainly point with pride to such an accomplishment."

"Sales of Nizer ice cream cabinets were below expectations in 1927. But the unusual reception accorded Nizer equipment at the Dairy Industries Convention in Cleveland recently, forebodes a large increase for Nizer sales in 1928."

"Export business is ahead of expectations, particularly in Great Britain, and I look for about twice the volume in 1928 from foreign markets that we had this year."

"Then, too, in addition to a splendidly knit together dealer organization, we are enjoying the approval of more and more public utilities as a result of Kelvinator's unequalled service record."

"We are conservatively planning for a steady increase in Kelvinator business. That sales are increasing is shown by the fact that this past year, month after month, sales were consistently 100% greater than the previous year."

BOSTON DISTRIBUTOR INSTALLS 192 UNITS ON ONE STREET

The Electric Refrigeration Company of New England, Boston, Mass., has recently completed the installation of 192 individual units in apartments on Dundee street in that city. Every apartment on both sides of the street is equipped and it is estimated that when the section is finally completely sold, that 400 units will have been used.

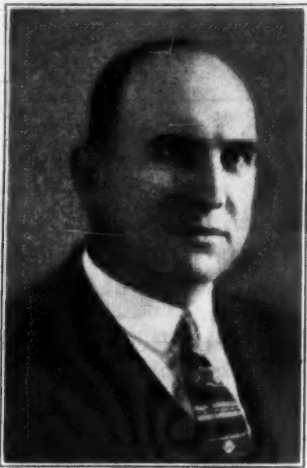
The apartment houses are owned by the Christian Science Church and are located on property that is part of a large area owned by that organization.

Tubing for condensers

Smooth. No possibility of scale. Up to 100 foot lengths. Formed to your order.

1431 Central Ave., Detroit, Mich.
WOLVERINE TUBE
SEAMLESS COPPER & BRASS TUBING

ELECTED PRESIDENT OF REFRIGERATING ENGINEERS



GEORGE B. BRIGHT

ANNUAL MEETING OF A. S. R. E. IN NEW YORK

(Continued from Page 1, Column 5)

perfected to a completely automatic stage. The modern home of the future will be cooled in summer days by the mere pressing of a button. He also foresees a branch of the industry called thermal engineering, bringing together the activities of both the heating and cooling engineer as they now approach each other in household work. This branch he says, bids fair to a place along with electrical and chemical engineering in size and dignity as a special field.

The report of H. T. Kennedy and C. H. Meyers, of the Bureau of Standards, Washington, D. C., on the critical temperature of carbon dioxide. The A. S. R. E. sponsors research on refrigerants and their properties at the Bureau of Standards. The work on ammonia was completed several years ago, and it now continues to carbon dioxide and will be carried on through other refrigerants. A long discussion on this work and its importance to the practical engineer in the bringing out of new tables, followed the Meyers-Kennedy report.

In this same connection a paper by J. C. Goosman and F. R. Zumbro, of the Frick Co., Waynesboro, Pa., on "Recent Improvements in Carbon Dioxide Equipment" was read.

F. N. Speller, chairman of the corrosion committee, which has been working with the Massachusetts Institute of Technology, reported that \$10,000 had been raised and expended on this project.

At the evening session on Monday, J. W. Martin, Jr., of the Dryice Corp. of America, New York City, told in an interesting way the uses of Dryice and illustrated them with pictures. This address was followed by papers referring largely to the problems of plant management. H. F. Pace, chairman of the executive committee, Affiliated American Firms of Accountants, New York City, spoke on accounting from the viewpoint of management. C. L. Barnum, of Cowan-Dempsey & Dengler, New York City, read a paper on the interrelation of sales and profits. William J. Lewis of the National Public Service Corp., New York City, spoke on the organization and operation of a group of ice manufacturing plants.

At the annual dinner dance Tuesday evening, William J. Donovan, assistant attorney general of the United States, addressed the group on the subject of "Individualism versus Monopoly." Either of these two extremes is undesirable, according to Mr. Donovan. He also said that democracy is based on competition and that great business organizations are desirable, but that "monopoly which goes on unchecked will make us a nation of clerks."

F. W. Smith, vice-president and general manager of United Electric Light and Power Co., presented the viewpoint of the central station man on the subject of refrigeration, indicating the great future which he sees for the industry. As an indication of the possibilities of expansion of both the ice and electric refrigeration industries, Mr. Smith brought out the fact that there are at present more automobiles in use than ice boxes. He also indicated the service to humanity which is being rendered in the development of the refrigeration industry.

The Tuesday and Wednesday programs were as follows, with the exception of the paper by L. S. Keilholtz, Delco-Light Co., Dayton, which was read by Mr. Wallis of the same organization.

TUESDAY, DECEMBER 6

Morning Session, 9:30 A. M.

TESTING DOMESTIC REFRIGERATORS.

W. M. Timmerman and H. A. Whitesel, Electric Refrigeration Department, The General Electric Co., Schenectady, N. Y.

PROGRESS IN THE HOUSEHOLD AND SMALL COMMERCIAL REFRIGERATION INDUSTRY.

L. S. Keilholtz, Delco-Light Co., Dayton, Ohio.

A HERMETICALLY SEALED REFRIGERATING MACHINE USING THE MERCURY COMPRESSOR.

J. G. De Remer, Savage-De Remer Corp., New York, N. Y., and R. W. Ayers, Savage Arms Corp., Utica, N. Y.

EVALUATION OF THE FRACTIONAL TON REFRIGERATING MACHINE.

J. B. Churchill, Plympton, Mass.

Afternoon Session, 2:00 P. M.

Joint Session. A. S. R. E.-A. S. M. E., Engineering Societies Building, 29 W. 39th St.

HEAT TRANSFER, GENERAL FORMULAS. Edwin R. Cox, (A. S. M. E.) California Gasoline Co., Los Angeles, Cal.

HOW SHALL HEAT TRANSMISSION IN WALLS BE MEASURED.

F. G. Hechler, (A. S. R. E.), Pennsylvania State College, Pa.

EFFECT OF PIPE LENGTHS ON ORIFICE CO-EFFICIENTS.

COEFFICIENTS.

A. J. Wood, (A. S. R. E.), Pennsylvania State College, Pa.

WEDNESDAY, DECEMBER 7

Morning Session, 9:30 A. M.

Technical Session.

COMMERCIAL METHYL CHLORIDE AS A TOXIC AGENT.

H. M. Baker, M.D., Evansville, Ind.

SULPHUR DIOXIDE.

C. W. Johnson, Virginia Smelting Co., West Norfolk, Va.

A MODERN RAILROAD TERMINAL AND COLD STORAGE WAREHOUSE. F. De C. Ball, St. Louis, Mo.

Afternoon, Inspection Tour, 1:30 P. M.

Inspection of the Seaboard Terminal and Refrigeration Company Plant, Jersey City.

6:00 P. M. Buffet supper following inspection of Carrier Engineering Co. plant. Return by busses.

Evening. Sixth Annual Power Show, Grand Central Palace, Lexington Ave.

The registration list which follows shows those who attended the meeting:

F. M. Aday	Henry Doppe
F. J. Adler	H. D. Bowers
F. V. Austin	H. D. Edwards
A. J. Authenrieth	F. R. Erbach
R. W. Ayres	C. H. Fessenden
C. T. Baker	Ferdinand Fink
D. N. Benedict	J. E. Fitzsimmons
Stephen Bennis	H. O. Forrest
Chas. W. Berry	A. W. France
Henning N. Borgstedt	Ezra Frick
William H. Bower	Ed. N. Friedmann
M. J. Boyle	F. M. Fuller
George B. Bright	F. T. Goes
L. H. Burkhardt	Victor J. Goetz
E. F. Burton	J. C. Goosmann
W. H. Carrier	H. Greenwald
J. B. Churchill	A. Griffin
F. E. Covale	S. F. Grove
A. Crawford Craig	H. R. Haltermann
G. H. Crawford, Jr.	H. J. Haltermann
S. R. Cummings	D. Roberts Harper
S. N. Dalton	Harry Harrison
A. S. Diamant	N. H. Hiller

A. H. Holcombe

G. A. Horne

R. M. Hyde

O. C. Irwin

E. H. Jenks

L. H. Jenks, Jr.

Albert Johnson

Chas. W. Johnston

Alfred D. Karr

H. E. Keeler

W. A. Kemp

A. B. King

M. Kirschberg

R. H. Landis

Bernard Lester

Wm. J. Lewis

C. E. I. Lipman

A. F. G. Lucas

A. D. McLay

J. I. Lyle

F. W. McMillan

J. W. Martin, Jr.

R. F. Massa

F. E. Matthews

H. W. McPherson

E. P. Meschter

C. H. Meyers

N. A. Morrison

A. P. Miller

Louis S. Morse

Alex. Morton

J. E. Moul

J. E. Mueller

J. T. Murphy

C. R. Neeson

Torvald Nilsson

Lew Olsen

A. W. Oakley

Fred Ophuls

C. C. Palmer

C. H. Peason

L. A. Philipp

Mildred B. Porter

J. K. Roberts

L. C. Roedel

C. M. Robinson

M. B. Monemous

M. M. Schliessel

E. F. Schumacher

H. L. Semans

Harry Sloan

N. M. Small

E. D. Smith

F. W. Speller

G. P. Spencer

W. S. Sutton

M. S. Tapley

G. V. Thompson

S. Thurstensen

E. D. Thurston

Ralph E. Turner

Henry Vogt

G. E. Wallis

H. B. Wallis

G. A. Wegner

M. B. Weinberg

H. A. Whitesel

Fremont Wilson

A. J. Wood

C. P. Wood

F. R. Zumbro

NOVOID CORKBOARD Insulation

For all commercial jobs you will find NOVOID Corkboard Insulation the most satisfactory insulating material for the purpose. It is convenient to use. It comes in 12" x 36" and 24" x 36" sheets, in 1", 1½", 2", 3", and 4" thicknesses. Shipped in strong fibre containers, each containing 72 board feet. Samples on request.

Write for Catalog E

Cork Import Corporation
345-349 West 40th Street
NEW YORK

Branches in Principal Cities

"We are particularly impressed with the information contained in your paper, and believe that it will be of considerable help to our various departments."—H. L. McGurk, general manager, Frigidaire, Ltd., London, S. W. 1, England.

An Army or Just a Mob!

By DAVID A. BROWN

The manufacturers of Electric Refrigeration are still in the "mob state."

Dealers in Electric Refrigeration, in their respective communities, are on a storm-tossed sea, without chart, compass or rudder.

No sane industry or business enterprise can function intelligently or profitably while this chaotic condition exists.

This is an age of Industrial Organization—an age of Dealer Organizations. No great industry in this country of ours is without its organization army.

Just how long are we going to continue as a mob? For—as a mob—we are absolutely defenseless.

I am trying to sound a battle cry for organization—organization of all of those forces that go to make up the Electric Refrigeration Industry.

RETAIL DEALERS! Get together in your respective cities. Some courageous soul among you, wire, 'phone or write to your fellow dealers. Invite them to a meeting or a luncheon. Plan to talk over your problems and then organize for the purpose of dealing fairly with each other.

MANUFACTURERS! It's time that the industry was organized. It's time to form an army for defensive purposes, so that the strength within us can be mobilized and held in reserve for the attack, the rumblings of which can be heard by anyone with his ear to the ground.

Let my office act as your clearing house. Write or wire your wishes as to place of meeting—time of meeting—and your choice as to who shall call this meeting, or whether it should be called at all.

Every manufacturer, large or small, should express himself as to whether we are to remain "just a mob" or to become an organized army.

{ Absopure Frigerator Systems meet the requirements for homes, apartments and commercial purposes. Also Absopure Ice Cream Cabinets and Water Coolers }

Absopure

FRIGERATOR

Division of

GENERAL NECESSITIES CORPORATION

DAVID A. BROWN, President

General Necessities Building

DETROIT, MICHIGAN

Knoxville Power and Light Company Provides Ample Space for Display and Demonstration



The importance of electric refrigeration in the educational program of the Knoxville, Tenn., central station is indicated by the elaborate setting shown above.

MUSICAL TRUCK CARRIES DISPLAY TO PROSPECTS

Louisville Dealer Believes in Aggressive Publicity

D. L. Gaston, of the Louisville Plumbing and Appliance Co., agents for the Ice-o-lator refrigerator, has an effective and arresting form of advertising his electric refrigerators.

He has converted a large truck into a sort of open room and in it places his refrigerators, with appropriate kitchen surroundings. This truck is equipped with a musical machine, which plays constantly. The truck makes the rounds of all the better residence districts, standing at the corner playing, while boys hand advertising literature which prepares the way for the follow-up visit of the salesman.

The truck not only is run in the residence districts, but through the downtown streets, and at night is brilliantly lighted. An item, by the way, that is important is that the music, while gay and lively, is of a type that would never jar the nerves of a music loving individual.

Truck Paves Way for Other Advertising

This music truck creates the publicity, which is used to advantage by paving the way for local newspaper advertising, which includes a coupon allowing ten dollars for the old refrigerator. Salesmen also make house-to-house visits, and leave explanatory literature. Every person that buys a refrigerator receives a very attractive booklet containing recipes. This cook book is also distributed judiciously to prospects and users of competitive machines. Mr. Gaston personally calls on the majority of his prospects.

In this connection, he expends intensive effort on the newly-weds. Watching the papers for the announcement of engagements and marriages, he calls first on the prospective groom, getting his permission to call on the girl, whom he interests in his refrigerator. This is done before the marriage, and in most instances the man will not refuse his bride a thing she greatly desires. Sometimes the refrigerator becomes a wedding present from near relatives of either party. Mr. Gaston generally sells about one refrigerator for every twenty calls on his first visit. The percentage of sales made is raised considerably through the deals closed upon return calls, many of which run as high as five or six visits.

HARDWARE DEALER USES SPECIALTY MEN ON REFRIGERATION

(Continued from Page 1, Column 4)

regular and good buyers. That list will be used by the solicitors selling electric refrigeration. Regular salesmen will be used as lookouts for the refrigerator line. Housewives will be politely asked by a salesman, when he is given an audience, if they have an electric refrigerator. If not, the name and address goes on the list of prospects. That means in due time there will be a fine list on which to work, made up of people who have the means to buy. "Just because we have sold a lady an electric refrigerator does not mean she is off our list, by any means," said Mr. Far-

quar. "We now have the water softener for sale. We also have ordered many sets of porcelain dishes made especially for electric refrigerators, and retailing at \$2.50 per set. Most of the owners of an electric refrigerator will buy. Electric iron sales will also help open up a nice list of prospects for our refrigerator salesmen."

Mr. Farquar finds the housewife who still does a portion or all of her work is the best prospect for an electric refrigerator. This class is found to be much easier of conviction than where the household work is in charge of maids. The lady doing her own work is inclined to be very neat and orderly; the electric refrigerator has a strong appeal at this point.

Mr. Farquar is a firm believer in the special salesman. "He studies all the points of his article and knows how to present the telling facts. That is where the specialty people win. Advertising helps make sales in any business, but the man or firm that advertises and then waits for the customer to come to the store loses half of the effect. Tell them what you have and then go out and sell them," said Mr. Farquar.

The Rogers company is planning to put on an advertising campaign soon. In the beginning 2,000 of the very best prospects in the city will receive at least four pieces explaining the merits of electric refrigeration. Daily newspapers will also be used. A general survey of the better residences is planned for the winter months.

"I think electric refrigeration is the one big field at this time," said Mr. Farquar, "and I can see no reason why the hardware dealer cannot handle the line with a good profit to the house. The fact that this company is an old and well-established hardware firm is going to aid me immensely in my refrigeration work."

SPECIALIST NEEDED FOR REFRIGERATION SAYS MOBILE DEALER

Radio-Refrigeration Service Is Self-Supporting

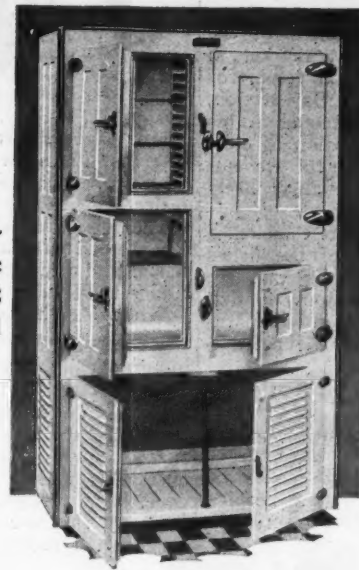
The H. M. Price Hardware Company, of Mobile, Ala., in business in that city for the past 86 years, has developed electric refrigeration from the position of being just one of many side lines, to what is now one of their most profitable departments, according to a description in the October issue of *Electrical Goods*, under the caption "First a Lunch—Then a Sale." According to the article, it was in the latter part of 1925 that the Price company began to sell electric refrigerators. A specialist was put in charge of the department, because the experience of the company with radio proved that lines of this type cannot be profitably handled without at least one man who is properly versed in selling, installing and servicing of the equipment.

"Selling, installing and servicing the machine is a work for specialists, and it can't be handled satisfactorily or profitably with the regular organization," said S. M. Rothe, president of the company. "They combine electrical and chemical facts and the service man must know the how and why of both. The machine is not sold as highly complicated machinery, but as something as dependable as the old ice box; but if it is to be as dependable as the ice box it must be properly installed by a man who knows his business."

The store also handles radio, so that the two lines work together, to prevent the slump which comes in the sale of a single

line. A service department is maintained, which handles installation, service and repairs on everything sold in the store. The department is self-supporting. Two men, one an expert on radio and refrigerators, and the other his helper, handle all the service work.

BOHN SYPHON REFRIGERATORS



Beautiful, Distinctive. Can be had in 7, 9 and 12 cubic foot net food storage capacity.

White Porcelain Enamel inside and outside. The machine compartment is ideal for storage space where remote installation is made.

For Electric Refrigeration

Write for Full Particulars

Bohn Refrigerator Company

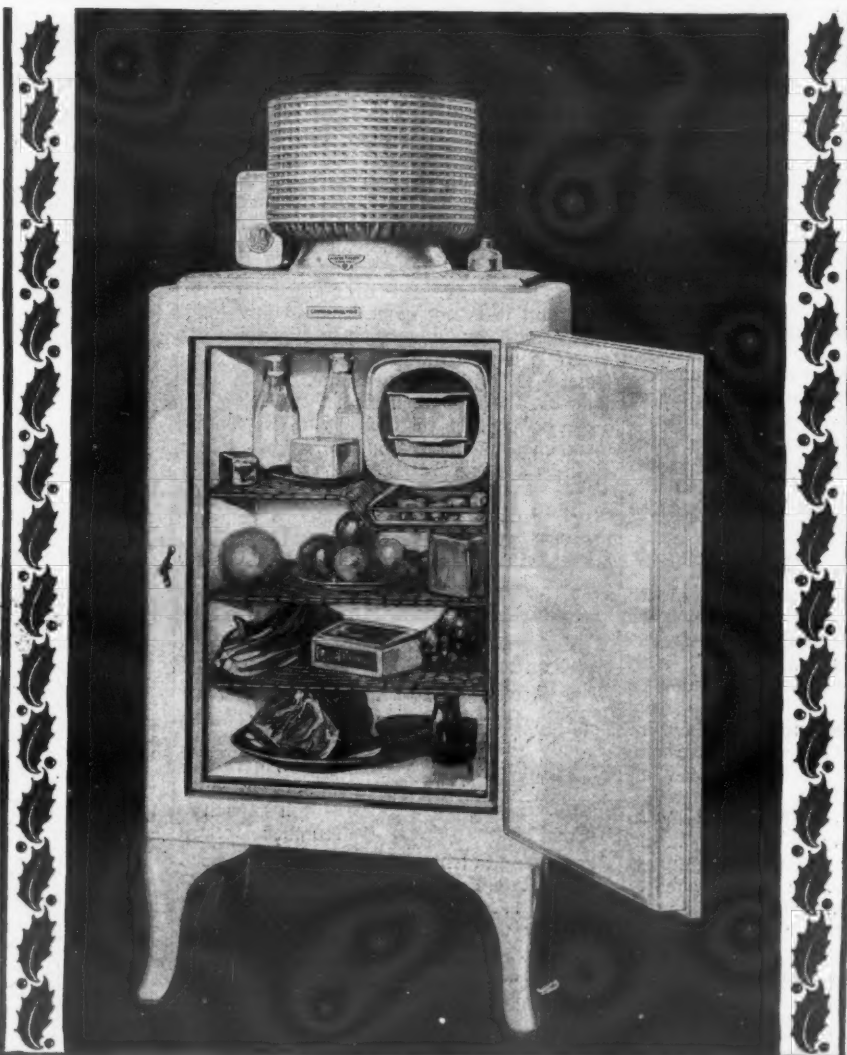
SAINT PAUL, MINNESOTA

These Models are on Display at our own Stores in

NEW YORK
5 E. 46th St.

CHICAGO
227 No. Michigan Blvd.

BOSTON
707-709 Boylston St.



Go after holiday sales!

The General Electric Refrigerators may actually be classed as a holiday number. National advertising in magazines having a combined circulation of fifteen million copies, and forceful newspaper campaigns will sell the idea of the General Electric Refrigerator as an ideal gift for the whole family.

There are certain steps for you to take to get holiday sales. Have a good window display.

Dress your window in the spirit of Christmas.

Advertise in your local papers using the special holiday advertisements which we have prepared for you. A series of five is now ready—get them from your distributor without charge.

Send direct-by-mail literature into selected homes, and finally, impress your salesmen with the idea that Christmas offers a real sales opportunity for you and for them.

GENERAL ELECTRIC Refrigerator

ELECTRIC REFRIGERATION DEPARTMENT · OF GENERAL ELECTRIC COMPANY · HANNA BUILDING · CLEVELAND, OHIO

INSTALLATION IN MEAT HOUSE PAYS ITS COST IN ONE YEAR

Quantity Buying Saves \$1,000 a Year

Arthur W. Brigham, president of the Alfred Brigham Co., a meat market in Boston, doing a \$200,000 annual volume of business in the wealthy Back Bay section, tells of the great savings effected in his institution through the installation of electric refrigeration equipment, in the November issue of the *Cincinnati Inquirer Merchandiser*.

The Alfred Brigham Co. was established by Alfred Brigham, father of the firm's present president, in 1872. As was the case with all similar institutions at that time, purchases were made in comparatively small quantity, due to the perishability of the products.

Faulty ice refrigeration has been a big obstacle to the carrying of large meat stocks, and because of this advocates of the hand-to-mouth principle have urged that there is economy in buying small stock and buying oftener rather than keeping large stock and suffering a loss from spoilage.

In regard to this, Mr. Brigham says: "Buying in large quantities at a good discount is poor economy, if there is a heavy spoilage because of such quantity buying. There is no saving in getting much meat cheaply and then having it spoil before it can be sold. The answer is the one which we have applied in this business. The way to economy is electric refrigeration. Refrigeration with ice was almost totally inadequate for the needs of a large meat trade. Until the advent of electric refrigeration it was the only practical refrigeration obtainable."

Hand-to-Mouth Buying Abandoned

In regard to the success of the installation at the Alfred Brigham Co., Mr. Brigham said, "We installed electric refrigeration last October. Our equipment cost \$1,600. There has been a number of advantages which we have experienced with electric refrigeration, but none of them greater than the ability to abandon the hand-to-mouth principle of meat buying. Our saving in this alone in one year's time amounts to \$1,000. That \$1,000 clear saving is always before me when I hear the hand-to-mouth idea advanced."

"There has been an economy in electric refrigeration compared with ice. Even though we are using electric refrigeration in a much larger cooler and are cooling a far heavier stock of meat, the bills for electricity, month by month, have run less than the bills for ice used in the much smaller and inadequate cooler. During summer months the saving here is very heavy, since ice bills average \$75 a month during those months, and even then the refrigeration was unsatisfactory because temperatures were not cold enough."

New Stock Carried

"With the abandonment of hand-to-mouth buying, we began to carry stock which we have never dared handle with ice. Sweetbreads, calves' brains and calves' liver, because they are so perishable, cannot be carried in an ice-cooled box. We have added them to our stock now and they are kept with perfect safety until they are sold. Electric refrigeration has eliminated all spoilage, a saving of \$175 a year."

"With the saving of \$1,000 a year in discounts through buying heavier stock, \$175 a year in elimination of spoilage, addition of new lines to the business, ability to care for out of town orders, added prestige among patrons, better display, colder temperatures and greater storage space, our electric refrigeration will pay for itself in a year's time."

COPELAND PRESIDENT SAYS SALES TOTAL 3 TIMES '27 FIGURE

Conservative Policies Responsible for Present Position

Sales of Copeland electric refrigerators during the last three months of 1927 will total practically three times the sales during the same period last year and will exceed even the record set during the third quarter of this year, according to William Robert Wilson, President of Copeland Products, Inc., Detroit, Mich., in a statement pointing out the favorable position the company occupies today in the electrical refrigeration industry.

"Copeland Products, Inc., has had as its policy the building of the utmost quality into its refrigerators and has therefore never stressed the production of the lowest-priced unit in the electrical refrigeration field," said Mr. Wilson. "But without departing from this policy, the recent introduction by the company of a new complete unit known as the Model N 5, selling at \$195 list, F. O. B., Detroit, has given this organization a strong position even in the low priced competitive group."

"Our distributor and dealer organization, both domestic and foreign, has been very materially increased this year. As a result Copeland refrigerators are being marketed



Mr. Dealer Says-

that he believes and knows is right and has begun and will continue to sell the people upon the value of his product and upon the strength of the institution, and the organization selling the product, he begins to attain a strong place. The pioneer days are over.

We, as dealers, can take advantage, locally to the extent that Mr. Maker has sold his product and organization to the American people.

There isn't any competition harder to overcome than the good feeling that the public may have toward a similar product.

This responsibility belongs to Mr. Maker and the more he sells the public the sooner he attracts to himself the stronger dealers.

Mr. Maker, having made his product "the best in the world" and "at the lowest price," must sell the people not the dealer.

The wise merchant of today is looking for a good product properly sold to the people and adding his local merchandising ability to that.

When Mr. Maker has built the product

in practically every major city in the United States.

"Marked reductions in manufacturing costs achieved this year, coupled with consistent low overhead in manufacturing operations and a conservative sales and advertising program, have enabled this company to show a substantial net profit for the ten months of 1927 ending October 31."

Financial Status Given

The company has approximately \$250,000 on deposit in Detroit banks, owes less than \$90,000 in current liabilities and outstanding sight drafts, and its accounts receivable are also in excess of a quarter million dollars, Mr. Wilson points out.

In accounting for the strong financial position of the company, Mr. Wilson stressed the facts that its inventories are in excess of \$250,000; the ratio of current assets to current liabilities are at this time in the ratio of nine to one; the company has no bank loans, bond issues, debentures or other fixed liabilities with the exception of a land contract payable at the rate of approximately \$900 per month, and its total investment in land, buildings, machinery and equipment, less reserve for depreciation, is \$350,000.

"These facts on the financial position of Copeland Products, Inc., give every evidence of a sound condition," says Mr. Wilson. "A strong factor in our favor is that the company's plant is so scientifically laid out for progressive assembly in manufacturing operations that it is likely that no additional expansion in plant facilities will be needed for the next eight months. The company has avoided over-expanding its plant and it is not committed to any long term sales or advertising expenditures, which in a new industry of this sort may sometimes prove burdensome. The wisdom of the management in adhering to these policies is justified by the strongly entrenched position Copeland holds today in the electrical refrigeration industry."

FOREIGN SHIPMENTS OF ELECTRIC REFRIGERATORS

September Exports Reported by Bureau of Foreign and Domestic Commerce

Countries	Refrigeration sets up to 1 ton capacity	Number	Dollars
Azores & Madeira Is.....	2	530	
Denmark & Faroe Is.....	54	9,827	
France	6	1,082	
Germany	36	4,627	
Greece	3	368	
Italy	59	10,297	
Netherlands	9	1,326	
Norway	5	976	
Portugal	4	720	
Spain	28	7,127	
Sweden	21	3,088	
Switzerland	37	5,643	
United Kingdom	18	3,343	
Canada	174	8,772	
Costa Rica	5	1,505	
Nicaragua	1	630	
Panama	11	1,889	
Salvador	8	2,119	
Mexico	13	3,097	
Bermuda	16	3,593	
Barbados	5	2,696	
Jamaica	1	180	
Other Br. West Ind.....	1	225	
Cuba	10	2,234	
Dom. Republic	13	4,235	
Netherland West In.....	6	2,177	
Haitian Republic	7	1,826	
Virgin Is. of U. S.....	1	180	
Argentina	622	64,386	
Brazil	106	19,885	
Chile	30	3,091	
Colombia	13	3,331	
Ecuador	1	267	
Uruguay	102	19,710	
Venezuela	2	792	
Aden	1	222	
British India	22	2,683	
China	1	240	
Java and Madura.....	4	1,185	
Hongkong	6	979	
Australia	288	60,862	
New Zealand	36	13,081	
Br. South Africa.....	31	8,229	
Egypt	12	1,482	
Total.....	1,831	284,737	

Ice Company Holds Electric Refrigeration Demonstration

Several hundred women, representing for the most part church societies of the city, have visited during the past few weeks a demonstration of electric refrigeration at the show rooms of the City Ice and Fuel Co., Flint, Mich.

The demonstrations, under the direction of Mrs. F. J. Cornell, of Flint, and G. Strelinger, representing the Strelinger Copeland Co., state distributors of the Copeland electric refrigerator, have been very well attended, as many as 240 guests being present at one session.

"Our impression of this publication is that it serves a definite purpose in the industry, and we consider it an invaluable asset. We wish you every success, and will gladly co-operate with you in every way to assist your purpose."—F. B. Hillwick, sales manager, Electric Refrigerator Co., Minneapolis, Minn.

a RATING for business... in terms of dependability

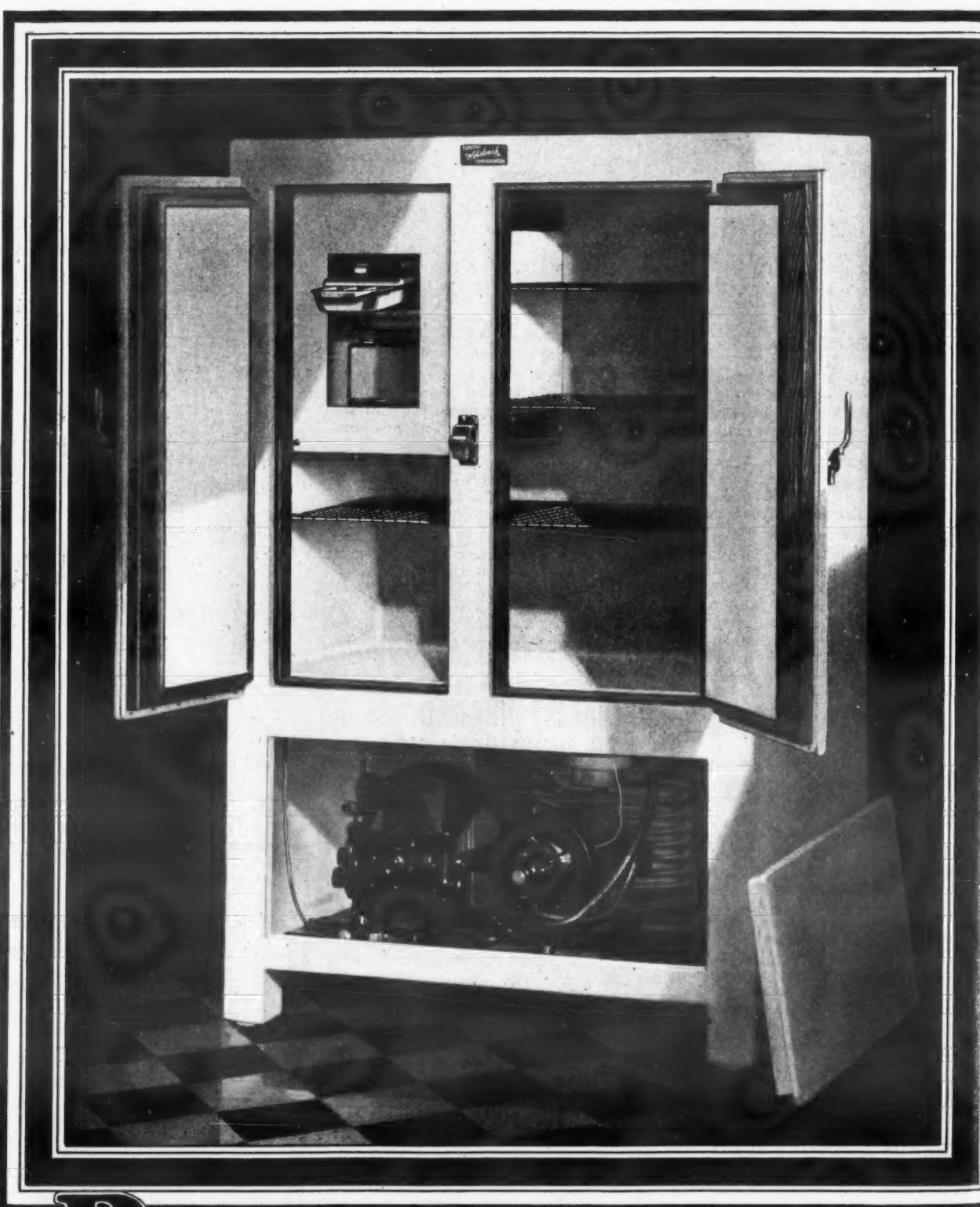
Why not one for Appliances?

In other words, you give your credit department essential facts for successful work

wouldn't it help your appliance manager to

Know—by Test

Electrical Testing Laboratories
80th Street and East End Ave.
New York N.Y.
Thirty years in the Service of the Electrical Industry



Portrait

A Refrigeration System which occupies an outstanding position in the Who's Who of the Electric Refrigeration Industry. A system which with its Low Pressure-Slow Speed principle of operation is the talk of Refrigeration engineers and the admiration of Experts.

A System which has so minimized service needs as to be practically an over-the-counter Refrigeration Unit.

A Refrigeration System that carries with it a merchandising plan which makes money for Central Stations, Distributors and Dealers because it doesn't milk profits by continually needing attention.

Information concerning Welsbach sales franchises will be gladly sent on request. Address Welsbach Company 307 Ellis Street, Gloucester City, N. J.

Welsbach Low Pressure Refrigeration

Buckets and Clocks Versus Gilt and Velour as a Window Display Setting



A typical window display of the Austin Hardware Co.

SOUTHERN HARDWARE MAN FINDS REFRIGERATION A CURE FOR SLACK TRADE

(Continued from Page 1, Column 2)

as to how many machines he is selling, but he did say that within four months after he got started with the new line his total sales had reached the total of the whole twelve months of the previous year. These were four spring and summer months, good refrigerator time but dull months for hardware, and Mr. Austin intimated that the remarkable success he has had with the refrigerators from the outstart told the story of the growth of his sales volume.

The refrigerator sales are being treated as a separate business, and records are carefully kept to show the amount of sales, cost of selling, cost of installation and servicing, and other details, in comparison with the hardware business. The time of Mr. Austin and his employees used in connection with the refrigerator department, a portion of the rent, lights and all other expenses are being charged against this department. From month to month Mr. Austin knows just how much he is making out of the sale of refrigerators, as well as out of his hardware business.

Survey of Territory Made

In going in for the sale of electric refrigerators, the first thing done was to make a survey of the territory and make up a file of prospect cards on those regarded as likely buyers. No systematic census was made of the territory, as Mr. Austin personally knows almost everybody for many miles around and was able to make out the cards from information already at hand, with additional information that was gathered from time to time.

"If I were going into this business in a section in which I did not have a wide acquaintance, or in a city," said Mr. Austin, "I would get a number of young ladies to make a canvass of the territory and pay them ten cents for each card filled out. I used that plan in Anderson some years ago, and it worked out splendidly. My prospect list cost me \$65, but I got a report on about everybody in town that I had a chance of selling my specialty to."

Mr. Austin carries in his pocket a "hot list" of cards on eight or ten prospects whom he believes the best in his prospect file. As these are seen and sold, or otherwise disposed of, they are eliminated and other cards are brought out in their place.

For a number of years Mr. Austin has sold electrical goods, and has had associated with him an electrician who had headquarters at the store, bought his supplies here and in turn helped sell lighting fixtures and electrical appliances. This man hung the fixtures sold by the store, and in some cases the store financed his larger contracts.

In taking on the refrigerator line, and with the necessity of special wiring for the machine, installation work and occasional servicing, it was found advisable to employ this electrician who, with a little training by the manufacturers, makes a splendid man for this work.

Window Displays Create Interest

Mr. Austin has used his show windows to good advantage in displaying his

machines, and has introduced some mighty good selling through his windows.

One of these was the placing in a refrigerator of a bottle of milk with the card, "This milk put here May 8th and still sweet." This remained until well in the summer, and attracted a great deal of interest. Housewives who knew that a bottle of milk would sour in a few days in their refrigerators were interested in one that would keep a bottle of milk sweet for weeks or even months, and wanted to know more about it. There was also placed in the box a thermometer with a card showing that the temperature never rose higher than 45 degrees. These and other interesting things about the machine were told by cards pasted on the glass of the window and attached to ribbons that ran to points of the refrigerator to which it was desired to call attention.

Just inside of the door was placed a drinking fountain, with water kept just above the freezing point with one of the machines, and the public was invited to come in at any time and get a drink of "the coldest water in town." There was often a waiting line at the fountain. It will never be known how many drank at the fountain during the summer, but there were few people in town or for miles away who failed to learn how cold that water was. Many of the people who came in for water had never been in the store before. The fountain was well worth its cost in the hardware it sold to the people who came in for water, and it cost only five cents a day.

Talks Given Before Women's Clubs

The plan of bringing women's organizations to the store for demonstrations was employed with good results. Each was required to bring not less than twenty-five ladies in order to obtain the \$10 reward, while the treasury of the organization received an additional \$10 for each machine bought by a member or sold through her influence. This plan sold several machines and acquainted hundreds of the best prospects of the community with the merits of the machine.

"There have been no dull days or waiting for customers who failed to come since we took on electrical refrigeration," said Mr. Austin. "Only we can't stay in the store and sell. But we know the business is there if we go after it right. We never catch up, and the trouble is that there are not enough hours in the day to see all the people we would like to see."

"When we started, there was only one of our machines in our territory. But it was giving entire satisfaction, and its owner was thoroughly sold on it. Now there are many, and every owner is a booster for us."

"Selling our machine is largely a matter of getting it into the homes of people who can afford to buy. Once it goes in and is thoroughly tried out, it usually sticks. The long term payments are a big aid in selling, and ninety per cent of our sales are made on this basis."

Refrigerated Citrus Cargo Goes From Jacksonville to Liverpool

Florida's first refrigerated cargo of citrus fruit will be shipped from Jacksonville, Fla., to Liverpool, England, on December 20, with monthly sailings until April, it has been announced. Twenty carloads of fruit will make up the first shipment.

an unusual Opportunity
now open to distributors

EXCLUSIVE TERRITORY for

ARGOWAND

HEAVY DUTY

POSITIVE VACUUM CLEANER

THIS improved portable vacuum cleaner offers these exceptional advantages:

Presents no servicing problems. No increase in your present overhead. Fills in gaps between selling seasons. Gives unusual profit in proportion to sales effort. A stable proposition—a product of the American Radiator Company.

Here are some of its unique sales features... It takes out 50% more dirt than ordinary vacuum cleaners. Does its work in half the time. Consumes less current per square foot. Equipped for every kind of surface—rugs, draperies, upholstery, walls, floors. It is compact, quiet, 99.5% efficient. Saves labor—saves rugs—saves repair bills.

To get the exclusive distribution in your territory—write or wire us for particulars.

ARCO VACUUM CORPORATION

(DIVISION OF **AMERICAN RADIATOR COMPANY**)

40 WEST 40TH STREET, NEW YORK

Atlas Refrigerator Cases



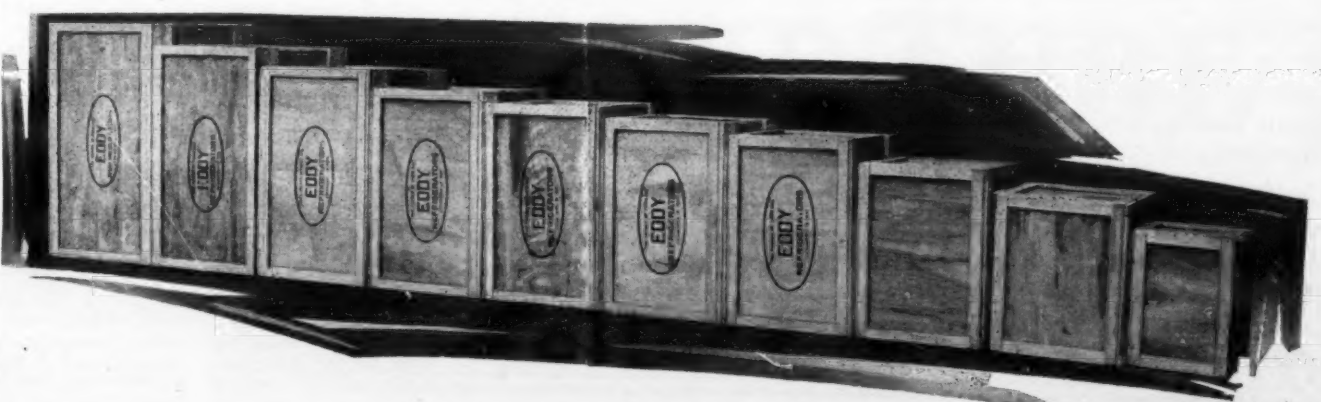
"We use 'em
in more'n
forty sizes"

Atlas Refrigerator Cases are built to the dimensions of any refrigerators—large or small—and their secure plywood protection is proof against all transit damages. Finish marring and scratching in shipment becomes an unheard-of calamity. To the dealers, this means quicker display of the refrigerators—no expensive refinishing to be done—and consequently a quicker sale of their stock. Atlas Cases also save dealers freight.

Manufacturers like the convenience of this modern refrigerator packing method, its efficiency, its positive security and its tremendous labor saving which means real money in their pockets.



General Offices: Park Square Building, Boston, Mass.
New York Office: 90 West Broadway
Chicago Office: 649 McCormick Building



ELECTRIC REFRIGERATION NEWS

The Business Newspaper of the Electric Refrigeration Industry

PUBLISHED EVERY TWO WEEKS BY

BUSINESS NEWS PUBLISHING CO.

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HUGH J. MOORE, Assistant Editor BEULAH WERTZ, Circulation Manager
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DECEMBER 7, 1927

Striking Back

FIRST URCHIN: "You watch what I do to him. First, I'm going to black his eye. Next, I'll smash his nose. Then I'll bust him one in the mouth."

SECOND URCHIN: "Huh! What yuh think he'll be doin' all that time?"

Electric refrigeration has been going through the stages which are encountered by most new products which are subject to keen competition. During the past two years, there has probably been more discussion of the advertising designed to sell electric refrigeration than about the machine which provides the service. Charges and counter-charges have been hurled this way and that. There have been frequent claims that statements and methods were unfair and unethical. A survey of events during this period may point to a lesson.

Early in 1926 attention was centered upon relations with the ice industry. The initial advertisements of most of the manufacturers were devoted to damning the ice man. The shortcomings of this benighted individual were ridiculed without restraint. Advertising writers apparently overlooked the fact that the ice industry is operated by substantial business men and that it represents millions of dollars of invested capital. The ice man, it developed, was not so dumb as he looked. In fact, he proved to be quite loquacious. It developed that he could not only talk back, but that he could be quite nasty about it.

Later in the same year the storm centered around the subject of refrigerants. The exponents of certain chemicals endeavored to promote their own machines by emphasizing the undesirable characteristics of materials used in competitive machines. Again the result was that those whose products were disparaged were not slow to retaliate in kind. The net result was a general mud-slinging contest, at which the ice man was a gleeful spectator.

During the year now coming to a close, the battle scene has shifted to price—the one element of commercial practice which probably causes more antagonism between competitors than any other. Again the old story has been repeated. No sooner does one manufacturer attempt to gain an advantage by cutting price than his competitors strike back by meeting, or beating the figure.

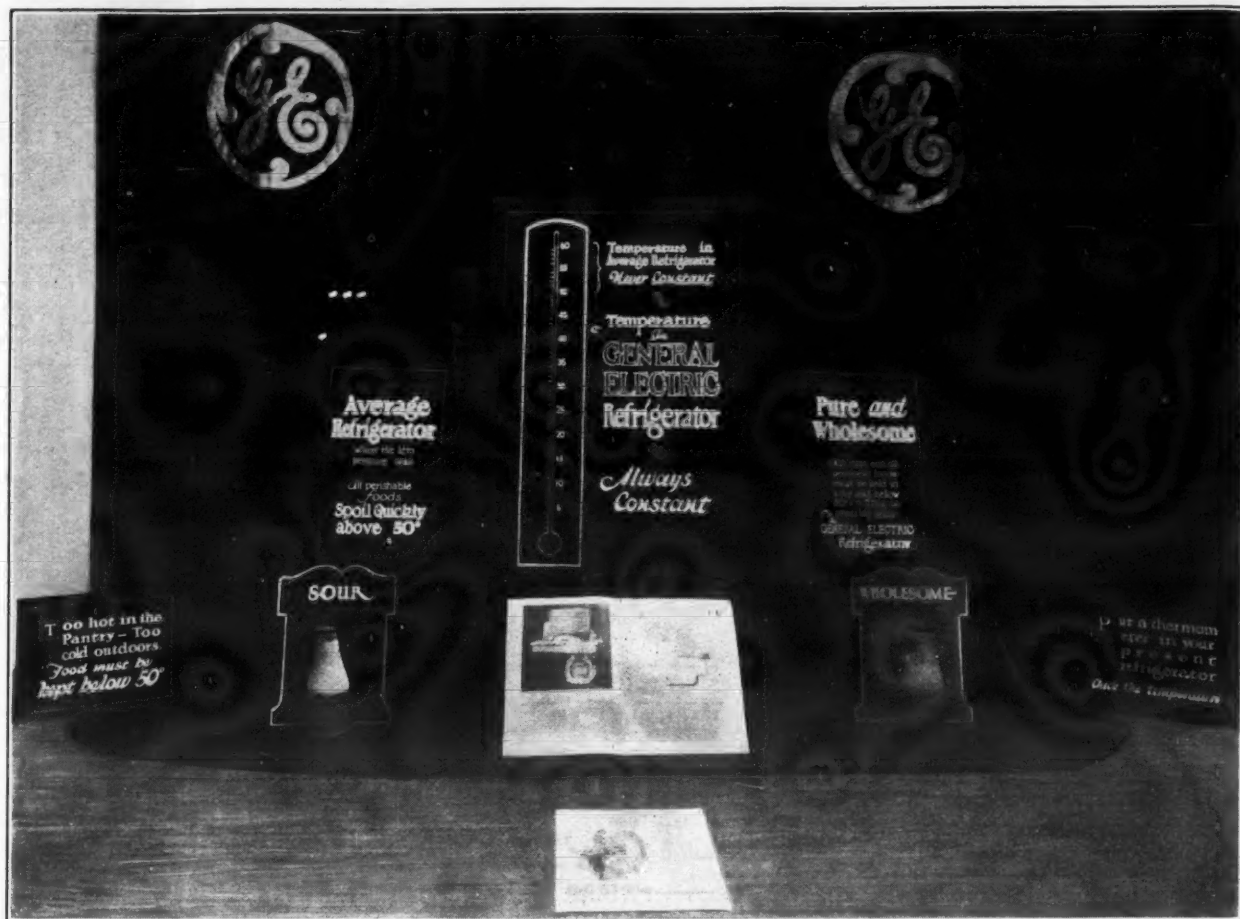
In the past two weeks the industry has been more or less excited about a situation also created by statements appearing in recent advertisements. Executives of some of the companies have been outspoken in their criticism of the claims made. One of the objectors felt impelled to refute certain claims in this advertising by a public statement.

A statement in the nature of a challenge was offered to ELECTRIC REFRIGERATION NEWS for publication as an advertisement. The advertisement was refused by the NEWS, but was distributed by the manufacturer through direct mail with a caption announcing the fact that the NEWS had refused to publish the copy. We do not consider it either necessary nor desirable at this time to express an opinion as to the merits of the advertisements of either company. The action taken in rejecting the reply advertisement was based upon a rule which publishers have found it necessary to enforce as a simple matter of self protection. This rule, as stated by one of the oldest and largest trade paper publishers in the country, reads as follows:

"Advertisers should confine copy to their products or distribution without direct reference to those of other manufacturers or competitors. Mention of another manufacturer either by product or name is not permissible without the consent of the latter. Whenever such reference is made in copy it should be accompanied by a letter of authorization."

It is not the function of a business paper to decide who makes the best equipment, to censor the advertisements distributed through other media, or to decide the controversy. The executives who are responsible for the advertising policy of the different companies are certainly big enough to settle such questions in a manner which will be to their own best interests as well as to the best interests of the industry as a whole. A way should be found which will enable these executives to meet each other around a table where they may thrash out their differences and arrive at a reasonably constructive program. ELECTRIC REFRIGERATION NEWS strongly urges that steps be taken, such as have been recently proposed by various leaders, to bring about a situation which will prevent, or at least minimize destructive dissension in the ranks of the industry.

Display Showing the Necessity of Electric Refrigeration and Requiring No Unit in the Window



The above display, worked out by H. E. Fries, Davenport, Iowa, distributor for General Electric refrigerators, effectively brings out the value of constantly low temperatures. Note the use of magazine advertisements. The fact that the display requires no cabinet in the window makes it a convenient one when stock is low.

DEALER REQUESTS AN EXPLANATION OF UNIT CAPACITY RATINGS

Engineers Give Views on Subject

W. W. STUART CO.
219 Ninth St.
Des Moines, Iowa

November 3, 1927.

Electric Refrigeration News,
554 Maccabees Bldg.,
Detroit, Michigan.
Gentlemen:

It has been customary for manufacturers to rate their machines as having a capacity to care for so many cubic feet of refrigerator space or to rate it in pounds of ice melting effect. We much prefer the latter rating and would like to have you inform us what is taken as standard in the way of pressures when they place these ratings on the machines. Since a machine will do more work at five pounds back pressure than it will at ten inches of vacuum, the rating means nothing unless the pressures are specified. Can you enlighten us on this subject?

Yours truly,

W. W. STUART COMPANY.
By W. W. Stuart.

Upon receipt of this letter requesting information in regard to the rating of capacities of electric refrigeration equipment, requests were sent to the chief engineers of a number of companies for an explanation of the rating of their particular machines. R. L. Alexander, of the Climax Engineering Co., refrigeration department, Clinton, Iowa, says that at the present time, his company is not rating its machine on the basis of cubic feet of refrigerator space. A standard basis of ice melting effect has been established by the American Society of Refrigerating Engineers for ammonia machines and it has been the practice of the Climax Engineering Co. to follow this standard. Their methyl chloride machines are rated on the same basis, making allowance for the comparative temperature ranges of the two refrigerants. This gives them a rating both on the ammonia machines and the methyl chloride machines, based on average operating conditions for refrigerators and storage rooms. When the machines are operating at very low suction pressures for ice cream work, the capacity is reduced correspondingly.

Roger K. Braun, sales service engineer of the Electric Refrigeration Corp., Detroit, says that there are no standard suction pressures and discharge pressures which have been adopted by the industry for the rating of domestic refrigerating machines, such as have been adopted for commercial refrigeration machines. Kelvinator has the capacities of the various condensing units rated at various suction and discharge pressures, but has no standard.

Harry C. Hayes, chief engineer of the General Necessities Corp., Detroit, agrees that some standard should be set up, but says that the average customer is not interested in technical terms, hence the use of cubic foot capacity rating. Mr. Hayes mentions the resolution adopted by the American Society of Refrigerating Engineers in December, 1920, which says that a ton of refrigeration represents the removal of heat at the rate of 288,000 B. T. U.'s per day, 12,000 B. T. U.'s per hour, or 200 B. T. U.'s per minute, measured at a condensing pressure corresponding to the saturation temperature of 80°

Fahrenheit and evaporating pressure corresponding to a saturation pressure of 5° Fahrenheit.

In the case of methyl chloride, this pressure would be in round figures 81 and 6 pounds, respectively. In the case of ammonia this would be about 154½ pounds pressure on the condensing side and 18.58 pounds pressure on the evaporating side. For sulphur dioxide these pressures would be about 51½ pounds on the condensing side and a minus pressure of 3 pounds, or approximately 6 inches of vacuum on the low side. In the case of ethyl chloride, the condensing pressure would be about 12 pounds and low side pressure would be about 10½ pounds, or approximately 21 inches of vacuum. In each of these cases, Mr. Hayes states, the machines using the different refrigerants would be working under exactly the same conditions and theoretically would be handling the same amount of heat. In other words, having the same capacity and require the same amount of power.

FRIGIDAIRE OPENS DISTRICT OFFICE AT SAN FRANCISCO

Having decided that the sale of Frigidaire equipment on the West coast could be better handled from a branch office in that district rather than from the factory at Dayton, a special car was chartered and the personnel and records in regard to the business moved directly from Dayton to San Francisco. The members of the staff stepped from their private car on October 25 and moved into offices ready for them in the Federal Reserve Bank building.

The San Francisco office is in charge of Earl K. Cecil and is the first to be established under a policy that provides for closer contact with the business of several divisional areas. Other offices are to be established in New York, Omaha, Atlanta, and Dallas.

R. C. Hutchinson, manager of the division, accompanied the party to San Francisco. Other members making the trip were: Paul M. Shafer, E. G. Gerber, Edward Shrake, J. H. Davey, D. W. Fritch, A. G. Byers, Mrs. Rose Kohr, Mrs. Edith Hauk, Mrs. Geraldine Doyle, Miss Loretta Livingstone, Miss Grace Holland, Miss Lucille Vanderveer, Miss Esther McGreevey, Miss Mary Bonforte, and Miss Sarah Douglas.

CHANGES RECENTLY MADE BY OMAHA REFRIGERATION MEN

Mr. E. J. Nellor, for two years with the Omaha organization of Kelvinator, is now the manager of the Storz organization in that city. Storz is distributor for the General Electric refrigerators. W. J. Higgins, formerly sales manager at St. Joseph, Mo., for Kelvinator, has also joined the sales force of Storz at Omaha. T. J. Doran, late manager for Storz, is now with an electrical sign company at St. Joseph, Mo.

"We are very much interested in your publication and wish to see you grow. We are appointing dealers all over our territory, and will put forth our greatest efforts to get you subscriptions."—E. C. Cutler, Doherty-Cutler Co., Dubuque, Iowa.

TIME PAYMENT PLAN FOR REFRIGERATION SALES IS GOOD BUSINESS POLICY

That there is no reason why the electric refrigeration industry should not receive its full share of the customer's dollar through the use of the time payment plan, is the contention of C. A. Nash, general sales manager of the United Light and Power Engineering and Construction Co., Davenport, Iowa, in a discussion headed "Selling Refrigeration on Terms," which appeared in the October issue of *Electric Light and Power*.

According to Mr. Nash, the practice of selling electric refrigeration on terms is sound and promotes the thrift of the individual as well as the business of the power company. He states that the electric industry is in an enviable position in having a fairly exact knowledge of the prospective customer's ability to pay and his credit rating.

The prospective customer, who is already taking service from the power company's lines, has established his credit in advance. The credit of the new customer may be obtained from the merchants association system of credit rating, which is maintained in nearly every community. These new accounts are a constant source of revenue and warrant a liberal policy in payments.

The losses resulting from the time payment plan are so small as to be negligible. A small reserve account on the appliance sales ledger easily separates good from non-collectible accounts. An analysis of records shows that the majority of trouble results from the company's own carelessness, consideration of credit, false promises or improper explanation of facts.

NEW BUILDINGS THAT ARE SPECIFYING ELECTRIC REFRIGERATION EQUIPMENT

The Bristol Construction and Realty Co., Main street, Bristol, Conn., recently organized, will start work on a 20 apartment building to be known as the Upsonian Apartments. Plans specify a brick and steel building, each apartment with electric refrigeration.

An apartment house at 147 Columbia Road, Dorchester, Mass., will cost \$200,000. Philip Markovsky has accepted plans prepared by Saul E. Moffie, architect, to provide for a three-story and basement brick building for 60 apartments, each to have an electric refrigerating unit.

Charles R. Greco, 11 Beacon street, Boston, Mass., has completed plans and specifications for the proposed new home for the Overseers of the Poor Department of the city of Cambridge, Mass., to be erected on Concord avenue. The building will be 40 x 480 feet, with three stories and a basement. A full line of electric refrigerating equipment is required. The project is estimated to cost \$300,000.

Barrows New Manager Pittsburgh League

With the resignation of J. H. Van Aernam to accept a position in Albany with the New York Power & Light Corporation (formerly Mohawk-Hudson), the Electric League of Pittsburgh has appointed George T. Barrows manager.

ALEX DOW ELECTED ENGINEERS' HEAD

Alex Dow, president of the Detroit Edison Company, was elected president of the American Society of Mechanical Engineers at a meeting of the society's council in New York City on December 5th. Mr. Dow succeeds Charles M. Schwab, who retired at the annual meeting of the society which was held in the Engineering Society's Building, November 5-10.

The present high honor conferred on Mr. Dow comes as the climax of a long life of endeavor in electrical engineering, during which, as he said, he has been "out of work only three days" since he began at the age of 11.

He holds two honorary degrees from the University of Michigan—Master of Engineering and Doctor of Engineering. Both were given in recognition of his "distinguished career as a successful engineer and administrator of large affairs, and as a public-spirited citizen of high ideals."

RADIO-REFRIGERATION STORE HAS ADVANTAGE OVER EXCLUSIVE SHOP

Says Combination Increases Sale of Both Lines

A radio dealer is situated almost ideally for selling electric refrigerators, according to J. F. Wesley of the Northern Radio and Auto Supply Co., Milwaukee, who has had considerable success in this line for the past few years.

"Handling radios we naturally get into many private homes throughout various sections of the city," said Mr. Wesley. "As a rule anyone who can afford to buy a radio will usually listen to anything we might have to say about electric refrigerators. Anyway, we have found that very few of our radio customers walk away when we start talking electric refrigeration to them."

Combined Overhead is Advantage

Mr. Wesley, who has one of the finest radio and auto supply shops in Milwaukee, believes that in a year or two radio shops will be selling more electric refrigerators than the exclusive electric refrigerator shop. Why? He bases his conclusion on the fact that they attract a larger number of customers into the store and can combine overhead of one department with the overhead of the other.

"It isn't any trouble at all for us to inquire of a customer when we install a radio if he has an electric refrigerator," said Mr. Wesley. "In fact, when we go to the home to demonstrate radio we have an opportunity to size up the place and make suggestions pertaining to electric refrigeration that are appreciated. In this way we have the advantage over the regular electric refrigerator salesman in that we are already in the home doing a job. The same thing can be applied the other way around. When we are in a home selling an electric refrigeration unit we can also see if they have a radio or not. By looking over the appearance of the home we can soon decide whether or not they can afford a radio. In this way we make one call for two products at practically only one expense. That is where we save money."

Mr. Wesley states that many times people come into his store to purchase radio and auto supplies and are attracted by the fine display of electric refrigerators. "We are able to attract more people into our store than many other dealers because we carry more lines," he declared. "They come in to buy radio and auto supplies and then we have an opportunity to talk electric refrigeration to them."

Women Impressed With Health Idea

Mr. Wesley believes that very few people buy electric refrigerating units merely because they feel they can afford such units. No, they buy them because they actually feel they need them! Selling the necessity of electric refrigerators is one of the things that will help the industry grow, is his belief. Just as everything else must be necessary to human life before it achieves a large, continual sales, so also must the use of electric refrigerators be sold to the public.

With all the propaganda in effect today about health, and rightful propaganda at that, Mr. Wesley believes that the "health" idea can be used to very good advantage. According to him, electric refrigerators are not a luxury as many people claim—they are a necessity for the healthful preservation of food. Housewives particularly are very easily impressed with this just argument.

Radio Music Increases Window Display Value

"We keep our store open longer than a number of other dealers as well as other retail stores," said Mr. Wesley. "A radio store must be kept open very late in order to accommodate a number of people. Many of the people going home from the theatres at night stop to look at our displays. Many of them come in, and we have made a goodly number of sales from this type of prospect."

"The practice of a radio store in tuning

in on a radio and getting music, is a good sales attraction for electric refrigerators," said Mr. Wesley. "People are attracted by the sound. If they are on the opposite side of the street and hear the music, they invariably look to see where it is coming from. And if you've got an electric refrigeration display in the window, so much the better. They can't help but see it."

FLORIDA POST OFFICE HAS COLD STORAGE ROOM AND WATER COOLING SYSTEM

An electrically refrigerated cold storage room in a postoffice is something new in the way of installations. The postoffice at St. Petersburg, Fla., has recently been provided with Frigidaire equipment. A description of this installation appears in *Ice and Refrigeration* for October. We quote a portion of it:

"Another use of refrigeration was put into effect when a cold storage room was installed in the new Parcel Post Station A, which is an adjunct of the famous outdoor post office of St. Petersburg, Fla. This room was built for the purpose of preserving perishable foodstuffs, including vegetables, flowers and fruit, great quantities of which are sent through that postoffice, especially during the winter season.

"St. Petersburg is the center of a thriving fruit section, and attracts many winter tourists, most of whom appreciate and utilize the novelty of shipping freshly ripened oranges, alligator pears and other fruit by parcel post to their friends up north.

"The equipment was installed by the Gregory Electric Refrigeration Co., of St. Petersburg. It consists of two Model C Frigidaire Compressors and four Model 62F Frigidaire Cooling Coils, installed in the specially built cold storage room, 8 ft. wide, 7½ ft. high and 13 ft. long. A central water cooling tank was also installed to cool drinking water, which is piped to various parts of the building through insulated pipes to drinking fountains. The room has been in use for about ninety days and is reported as having given entire satisfaction. First tests brought the temperature down to 20 degrees above zero, but since then a constant temperature of 40 degrees has been maintained for the cold storage room and 45 degrees at the drinking water fountains, which was specified by the Postoffice Department. This will make it one of the coolest spots in Florida, and provides a way to preserve perishable shipments in a very effective manner.

"Stamps also are kept in the cold storage room, because the atmosphere in St. Petersburg is very moist and tends to make the mucilage hot and sticky. The dry, cool atmosphere provided by the cold storage keeps them dry and prevents them sticking together."

ARMSTRONG MEN SEE SHIPLOAD OF RAW CORK

Salesmen of the Armstrong Cork and Insulating Co., of Pittsburgh, Pa., while in convention recently at Gloucester City, N. J., where the laboratories of the company are located, were taken down to the wharf to visit the Italian steamer, Vesuvio, which docked at the Armstrong wharf during the convention. The 172 men present found much of interest in their inspection of the big freighter, which was loaded from bow to stern with cork board and cork waste ready to be made into Armstrong cork board, cork covering and other cork products.

Buys Controlling Interest In the Berg Manufacturing Company

James G. Fuller, a director of the Berg Manufacturing Co., Gardner, Mass., makers of Ice Berg electric refrigerators, has acquired the interests of Carl H. Hedstrom and Major Walter L. Beaman in the company for a price said to be \$100,000. Mr. Fuller, who has diversified business interests in Boston, New York, Philadelphia and Montreal, has held the exclusive distributor's franchise for the product of the corporation for some time. His recent purchase of new stock in the company is said to give him a controlling interest in the manufacture of the electric refrigerator.

Kingsbury Joins General Motors

According to an announcement just made public by Alfred H. Swayne, vice-president of General Motors and chairman of the institutional advertising committee, Gordon W. Kingsbury has joined the staff of the General Motors institutional advertising section.

Mr. Kingsbury will spend a major part of his efforts on the new radio broadcasting project of General Motors. For the past two years Mr. Kingsbury has been with Kelvinator, Inc., as advertising and assistant sales manager.

An Installation Problem

A country butcher, after a long technical explanation on "Frigidaire," remarked: "Yes, I think the idea is a good one and I shall seriously consider buying it, but there is one point on which I am not quite clear—how much ice per day shall I have to buy to keep your coils, or whatever you call 'em, cold?"—*Frigid Era*.

ENGINEERS SEE WORLD'S LARGEST ICE PLANT ON WAY TO CONVENTION

The National Association of Practical Refrigerating Engineers met in San Francisco, November 29 to December 2, for their convention and educational exhibition. Two special trains, one from Chicago and one from New Orleans, provided transportation for the delegates. The trains met at Roseville, California, at ten o'clock Monday morning, November 28, where the delegates were entertained and made an inspection of the largest ice plant and car-cing station in the world—one owned by the Pacific Food Exchange Co. The two parties then went on to San Francisco, where they again met at the Hotel Whitcomb, which was selected as convention headquarters.

The program of the convention was devoted largely to refrigeration engineering as applied in the larger commercial installations.

"I have been a subscriber to your publication for more than a year and believe you are attempting to render a real service to the refrigeration industry."—S. E. Camper, S. E. Camper & Co., 336 Starks Bldg., Louisville, Ky.

Profits for DEALERS - DISTRIBUTORS "Revolve"

PLYMETL SHELL

A
N
D

MONOLITHIC CORK One Piece

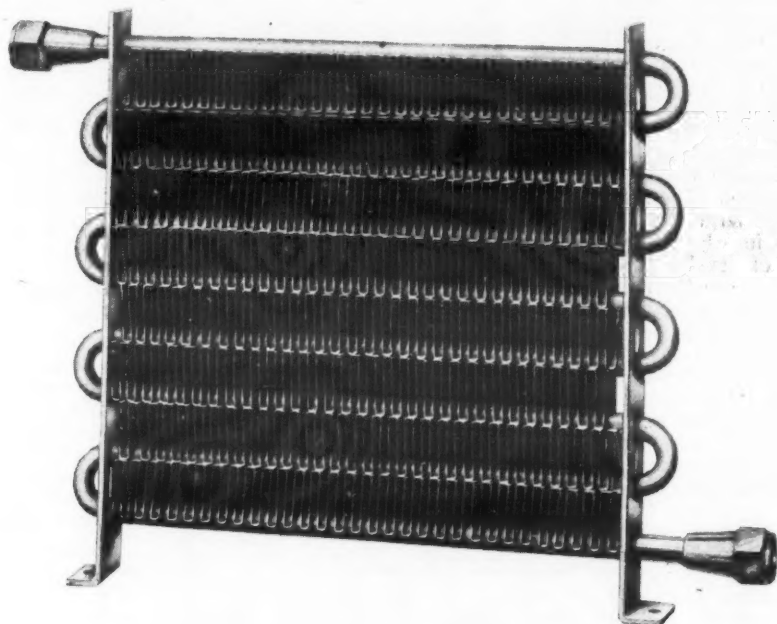
Standard Ice Cream Cabinets and Fountains

REFRIGERATED WITH THE MACHINE YOU SELL

Iceless Cooler Corporation

225 N. Michigan Ave.

CHICAGO, ILL.



A NEW & BETTER COIL

1. Continuous Tube—No Joints to Blow
2. More Fin Area per Inch of Tube
3. Rigid Construction—Braced Both Ways
4. Greater Capacity in Smaller Space

HERE is the final product—a superior cooling unit—the result of original research and thorough testing in actual use.

It will stand up even under the worst operating conditions—of high temperature and rough handling.

It will build your reputation and ours.

Know the whole story—send for complete description and a quotation on your specifications.

WOLVERINE TUBE COMPANY

1431 CENTRAL AVENUE DETROIT, MICHIGAN

Chicago
129 S. Jefferson St.

Cleveland, Ohio
602 Hunkin-Conkey Bldg.

Rochester, N.Y.
206 Central Trust Bldg.

WOLVERINE TUBE

SEAMLESS COPPER & BRASS TUBING

Members of
Copper & Brass Research Association

Standard Sizes
of Copper Tubing Carried in Stock

Describes Three Main Types Of Apartment Installations

Explanation of Factors to be Considered in Determining Equipment Necessary

NOTE: Following is lesson No. 21 from the Correspondence Course, which is offered by the Nizer Division of the Electric Refrigeration Corporation for the training of sales and service men. Lesson No. 20 was published in the October 12 issue. Complete information regarding the course, which is offered free under certain conditions, may be obtained by addressing Nizer Division, Electric Refrigeration Corporation, Detroit, Michigan.

APARTMENT HOUSE REFRIGERATION

Copyright, 1927, by Nizer Corporation

Automatic electric refrigeration finds an excellent application in apartment houses, for there its use is advantageous both to the owner and the tenant. The former finds that prospective occupants, knowing the merits of electric refrigeration, are likely to insist that their apartments have this modern convenience. Consequently those apartments in which automatic electric refrigeration is installed, are rented more readily than are those in which the old type of ice refrigeration is still used. The advantages of electric refrigeration to the tenant are, of course, obvious. Most manufacturers of automatic electric refrigeration equipment have a wide range of models which are designed particularly for installation in the apartment house. As a result of this, the architect or apartment house owner need only specify the size and location of the various boxes to enable the refrigerating engineer to specify the type of equipment which is necessary. The size of the refrigerator depends largely upon the size of the apartment in which it is installed. In the matter of its location, however, several possibilities usually present themselves. In general, the refrigerator should be placed in a location most convenient for the housewife and also in a place where the temperature surrounding it is not unusually high. Placing the refrigerator near a stove, a radiator, or against the wall upon which the hot summer sun is likely to shine, will naturally increase the cost of operating the refrigerator.

The refrigeration of apartment houses is, in general, accomplished in three different ways. These are:

- (1) Individual and separate self-contained units for each refrigerator.
- (2) Multiple units: These are installations in which two or more cooling units or evaporators are connected to one condensing unit.
- (3) Brine circulating systems.

Each of the above three systems has advantages which are peculiar to itself and upon these factors and characteristics is based the decision as to which type should be installed. Each type may be depended upon, when properly installed, to give satisfactory refrigeration.

The Individual Self-Contained Unit

The individual self-contained installation is that in which each apartment is equipped with a refrigerator, having installed within it, its own compressor. One of the outstanding advantages of this individual unit system is the independence of each unit from every other unit in the building. One refrigerator is not affected by the manner in which the other units in the building are used and the tenant pays only for the amount of refrigeration which he, himself,

has used. In addition, the refrigerator is more easily moved from one position to another and for these reasons the tenant is usually better satisfied with this type of installation. The installation of the individual unit is more simple than that of the multiple unit and for this reason many manufacturers and dealers are likely to recommend it. All that is necessary for the installation of the individual unit is a convenient electrical outlet and in the case of certain types, a water drain. When specifying individual self-contained refrigerators for a given apartment, it is necessary to specify only the number and size which are required, since each refrigerator comes equipped with its own refrigerating unit.

Selecting the Equipment

In determining the equipment for the refrigeration of a group of refrigerators by a multiple unit system, it is necessary to know the number of refrigerators which must be cooled, their size, the kind and amount of insulation used and the highest temperature which is likely to be encountered within the apartment. It is also necessary to know their location relative to each other and their distance from the basement or other place in which the compressor is to be installed. On water-cooled equipment, the maximum vertical height between condensing unit and cooling coil cannot be over 50 feet. With air-cooled condensing units, this height can be increased to 100 feet. The total length of suction tubing in any case is limited to 170 feet. The vertical height in each case is limited by the condenser pressure, while a length of suction tubing greater than 170 feet, prevents the creation of a sufficiently low pressure in the most remote evaporators.

To determine the size or cubical content of a refrigerator, the inside height, width and depth in inches are multiplied together and the answer converted into cubic feet.

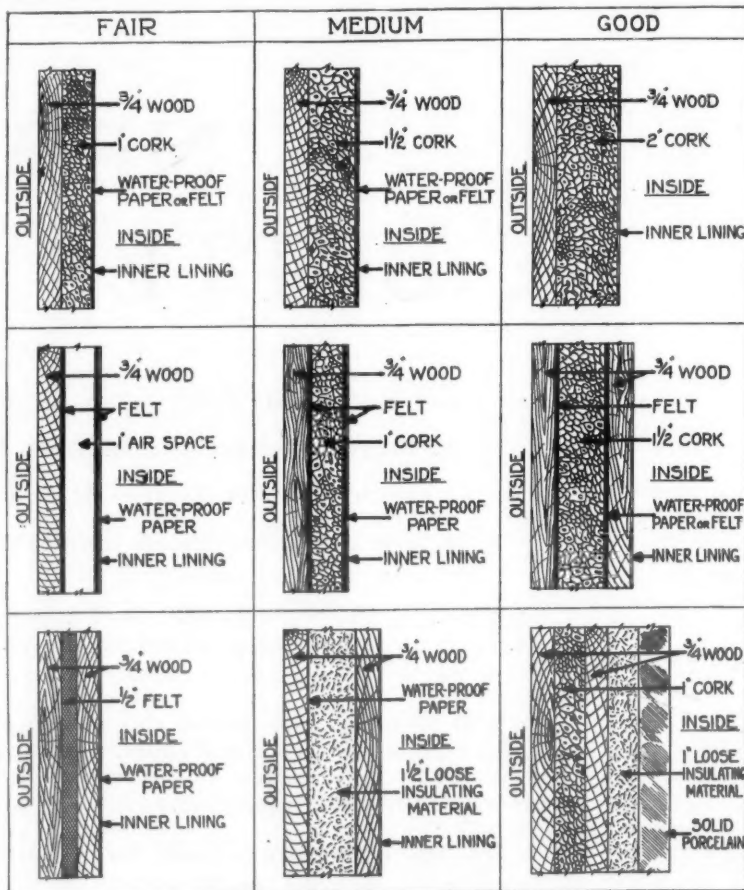
TOTAL HEAT LEAKAGE IN B. T. U PER 24 HOURS

Cubical Contents Cu. Ft.	FAIR INSULATION			MEDIUM INSULATION			GOOD INSULATION		
	Northern	Central	Southern	Northern	Central	Southern	Northern	Central	Southern
4	7,500	9,200	10,800	5,800	7,100	8,400	4,100	5,000	5,900
5	8,100	9,900	11,700	6,300	7,600	9,000	4,500	5,400	6,300
6	9,300	11,400	13,500	7,200	8,800	10,300	5,000	6,100	7,200
7	10,100	12,400	14,700	7,800	9,500	11,300	5,500	6,600	7,800
8	11,000	13,400	16,000	8,400	10,300	12,200	5,900	7,100	8,400
10	13,700	16,600	19,700	10,800	12,970	15,200	7,800	9,300	10,600
12	15,100	18,600	21,800	11,800	14,300	16,800	8,500	10,100	11,800
14	16,600	20,500	23,900	12,800	15,600	18,400	9,200	11,000	12,900
16	18,300	22,000	26,000	14,400	16,900	20,000	9,900	11,900	13,900
19	20,600	25,100	29,700	16,000	19,400	22,800	11,500	13,700	16,000
22	23,200	28,600	33,600	17,500	21,800	25,800	12,800	15,400	19,500

The Multiple Unit System

Although the use of the individual self-contained unit is very satisfactory for the refrigeration of apartment houses, if a large number of apartments must be equipped, the expense connected with this method is sometimes higher than the owner cares to bear. In such instances the multiple system is frequently used. In the multiple system each apartment is equipped with its own refrigerator, in which is

In this computation all partitions are disregarded. The cubical contents of the refrigerator and the size of the compartment door determine the type and size of cooling unit or evaporator to be used. Another factor which requires consideration is that of having proper clearance between the cooling unit or evaporator and the inside walls of the refrigerator. Practically all manufacturers' lists of equipment give sufficient data from which it is



Typical Refrigerator Wall Construction

placed the conventional evaporator or cooling coil. Instead of each refrigerator having its own compressor, however, one or more compressors located in the basement or other suitable place are used to operate a group of refrigerators. As a result of this, the compressor cost is, of course, greatly reduced. In addition to reducing the initial cost of the installation, the multiple unit system removes the compressor from the apartment itself and is, therefore, likely to give more quiet operation than in the case where the installation is self-contained. In addition, in cases where work must be done on the compressor, the multiple installation makes it possible to do this without entering the individual apartment. The only drawback which presents itself in connection with multiple installation, is that trouble or improper usage in connection with one refrigerator is likely to somewhat affect the operation of the other refrigerators connected to the same compressor. This item is, however, relatively unimportant and many large apartments are using the multiple unit system with a high degree of satisfaction.

possible to select the proper cooling unit for any standard refrigerator. The number and size of condensing units which will be required for the refrigeration of the boxes, is dependent upon the number of heat units which must be abstracted from the boxes to keep them at the required temperature. This is done somewhat more simply than in the case

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of the commercial box and tables have been prepared which makes the work very easy. The first step in computing the refrigeration load is the determination of the insulation of which the box is composed and for this purpose refrigerator insulation has been classed as fair, medium and good, corresponding to one inch, one and one-half inches, and two inches of cork or its equivalent. In addition to the cork, the refrigerator is usually further insulated with wool felt and with layers of insulating paper. The accompanying drawing shows typical refrigerator wall construction. The refrigerator in question should be compared with these and classified as having fair, medium or good insulation accordingly.

The table reproduced here shows the amount of refrigeration in B. T. U. required by various sized boxes with the three classes of insulation as indicated, and under the three temperature classifications

(Continued on Page 11, Column 2)

SALES CONFERENCE PLANS TO PROMOTE ADEQUATE WIRING

Sprackling, Cullinan and McIntyre Elected to Offices

The electrical industry sales conference which met at the Society for Electrical Development headquarters in New York City on November 21 for its opening session, elected W. E. Sprackling, chairman of the conference, George E. Cullinan, vice-chairman, and Kenneth A. McIntyre, secretary. An executive committee composed of the chairmen of the five delegations was named and included W. E. Sprackling, National Electrical Manufacturers' Association; G. E. Cullinan, Electrical Supply Jobbers' Association; J. E. Davidson, National Electric Light Association; Joseph A. Fowler, Association of Electricians International, and J. E. North, the Leagues.

As a policy in regard to the work of the conference the following resolution was adopted: "That the industry sales conference make as its first objective the development of a broad industry program for the promotion of more adequate house wiring through an organized national movement to rewire the houses now connected with the power systems of America where the installation provides adequate facilities for the use of complete electrical equipment, and also to establish a higher standard of adequacy in the wiring of new houses."

"The conference recognizes that the present status of the electrical house-wiring contractor will prove a fundamental factor in the carrying out of any program to promote house wiring and that careful study should be given to this problem in the hope that a way may be found to increase his effectiveness as a creative influence in the development of the electrical market."

The next meeting of the conference will be in January, 1928, at which time recommendations will be received from the following sub-committees which were appointed:

Committee on Wiring to include also Red Seal and Re-wiring: M. C. Huse, Chairman; A. Lincoln Bush, and R. Bourke Corcoran.

Committee on the contractor-dealer situation: W. Creighton Peet, Chairman; John L. Owen, and Earl Whitehorse.

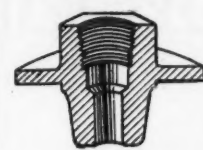
Committee on National financing and local co-operation: H. T. Bussman, Chairman; R. J. Russell, and D. C. Birdsell.

Committee on national advertising: J. E. Davidson, Chairman; R. Bourke Corcoran, and G. E. Cullinan.

Committee on merchandising: J. G. Johnson, Chairman; E. W. Lloyd, and J. L. Ray.

Committee on S. E. D. co-operation: J. E. North, Chairman; Jas. A. Strong, and H. A. Brooks.

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Iron Mountain Co. Lipman Refrigeration Co.
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REFRIGERATION PATENTS

Available and classified for ready reference, I have a very complete history of the published, unpublished, patented and non-patented art of refrigeration and can furnish therefrom accurate data respecting any new idea, or development.

I have contacts with engineers and attorneys all over the world specializing in refrigeration and can secure information from these and other sources having an important bearing on the validity and scope of many patents. I know the patent situation from 15 years practical contact therewith.

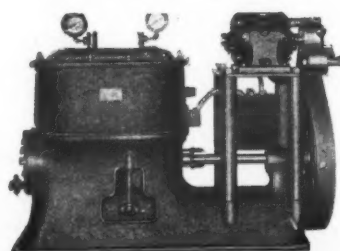
To those attempting to create patent situations I offer a specialized graphic charting service of inestimable value and can submit for purchase applications of interest from clients here and abroad which will aid materially in completing any situation in this field.

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Through associates abroad I am able to dispose of foreign rights to U. S. inventions and can initiate manufacturing and sales contacts, particularly in England and Germany. I have requests from concerns abroad wishing manufacturing rights to machines that are fully developed here.

In furnishing Reports, Opinions, etc., I bring to the work an experience of over twenty years as a successful manufacturer and engineer in addition to over fifteen years experience as a registered Patent Attorney.

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Are you wondering why we have built "Auditorium Hotel" in Cleveland? One must have a good reason for spending nearly two million dollars. We have a reason worth far more than that.

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MANAGING DIRECTOR

ST. LOUIS FIRM DEMONSTRATES UNIT AFTER SALE

Follow Up Checks Installation and Gets New Prospects

"And now, Mrs. Adams, I want you to meet our Mrs. Mitchell. This is the lady who will call at your home within the next few days and show you all about your new electric refrigerator and how to make some of those delicious frozen desserts we have just sampled."

Mrs. Adams has just signed an order for a modern refrigerator in the store of Beck and Corbitt, St. Louis, Missouri, distributors of Copeland electric refrigeration. The salesman is completing his obligation to his company and to his customer by seeing that the latter receives the complete home demonstration to which she is entitled.

Like the electric range, though possibly to a lesser degree, the electric refrigerator, its operation and possibilities, is more or less of an unknown quantity to its new owner, according to Beck and Corbitt. Last October, therefore, this firm engaged Mrs. Florence Wickert to follow installations and to do these five things: 1. Give the housewife complete instructions about defrosting her refrigerator; 2. Show the correct arrangement of foods on the shelves; 3. Make one or more desserts especially suited to electric refrigeration; 4. Check the temperature of the box, and last, but not least; 5. Obtain prospects.

In order that the company might be protected in any good will that this demonstrator should build, it assigned Mrs. Wickert the alias, "Mrs. Mitchell." Mrs. Mitchell receives a straight salary of about \$30 a week.

Nine Prospects Turned in Each Week

"It is one of the best investments I have ever made," states the sales manager of this concern. "The pleasing personality of this capable woman and her ability to meet our customers on an equal social footing is winning for my company hundreds of friends and boosters monthly. She turns over to my sixteen salesmen about nine live prospects a week from these home contacts and saves the service department many calls it would otherwise be obliged to make due to improper or neglected defrosting."

Mrs. Mitchell averages three calls a day. First, she defrosts the machine, in the presence of the housewife, then she places the foods and liquid refreshments on their proper shelves. The correct arrangement, she says, is: liquids, butter, cream, eggs and fruit at the bottom; cooked foods, meats, etc., in the middle; and foods with appreciable odors, as cheese and certain vegetables, on the top shelf. Allow plenty of room for the free circulation of air.

Frozen Dessert Checks Machine Operation

Now comes the most interesting part of the visit, for the housewife at least. A recipe or two for some novel frozen dainty is discussed with the lady of the house, the ingredients are mixed, and the resulting dish put in the refrigerator, which is now at its highest efficiency, to harden. Just before the demonstrator makes this last move she takes the temperature of the box. If it is so high as to indicate some fault she notifies the service man. "This rarely happens," she says. While Mrs. Mitchell has been mixing the dessert or immediately thereafter she tactfully leads up to the subject of prospects. As a general thing, it appears, the owner is so delighted with the personal attention she is getting that she goes out of her way to think up names.

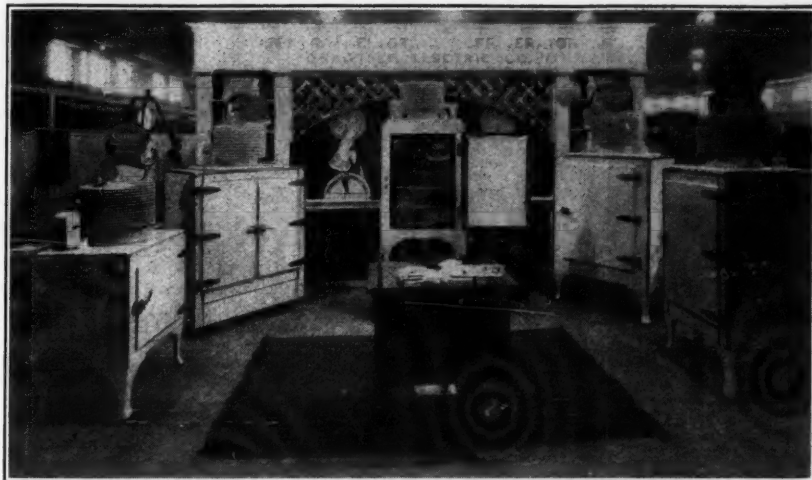
Another advantage of the "Courtesy Department" is the opportunity which its home service work creates for meeting groups of women. Mrs. Mitchell offers her services to each new owner in the preparation of some unique dessert for a party. Frequently this graduate of a course in home economics is invited as a guest to a bridge party or an afternoon tea. She arrives an hour or two before time, makes the frozen ice or pudding and helps serve it. The chance for meeting prospects is obvious. These women are asked to meet Mrs. Mitchell at the store and look over the various models. An attractive dessert and a cool beverage is always on the shelf of the operating refrigerator on the sales floor.

Opportunity for Meeting Groups

These contacts lead also to an opportunity for the same kind of service to women's organizations, church gatherings and clubs. In these instances, an electric refrigerator is delivered and connected at the place of meeting. Sometimes Mrs. Mitchell is granted an opportunity to address such bodies on the subject of food preservation and the making of interesting iced dishes.

"It is difficult to state," continues the sales manager for Beck and Corbitt, "just which of these many advantages resulting from the employment of Mrs. Mitchell, otherwise the Courtesy Department, the firm values most. Prospects, good will, reduction of servicing costs—they are all of vital importance to the success of any specialty business. Certainly this woman is accomplishing all three in a highly satisfactory manner and to my utmost satisfaction."

Five Salesmen Handle Crowds at this Pittsburgh Food Show Exhibit



This General Electric display by the Ochiltree Electric Co., Pittsburgh distributors, drew such crowds that five salesmen were needed each evening to take care of the visitors. It is estimated that over 207,000 people visited the show during the two weeks period. W. H. Ochiltree reports very satisfactory results.

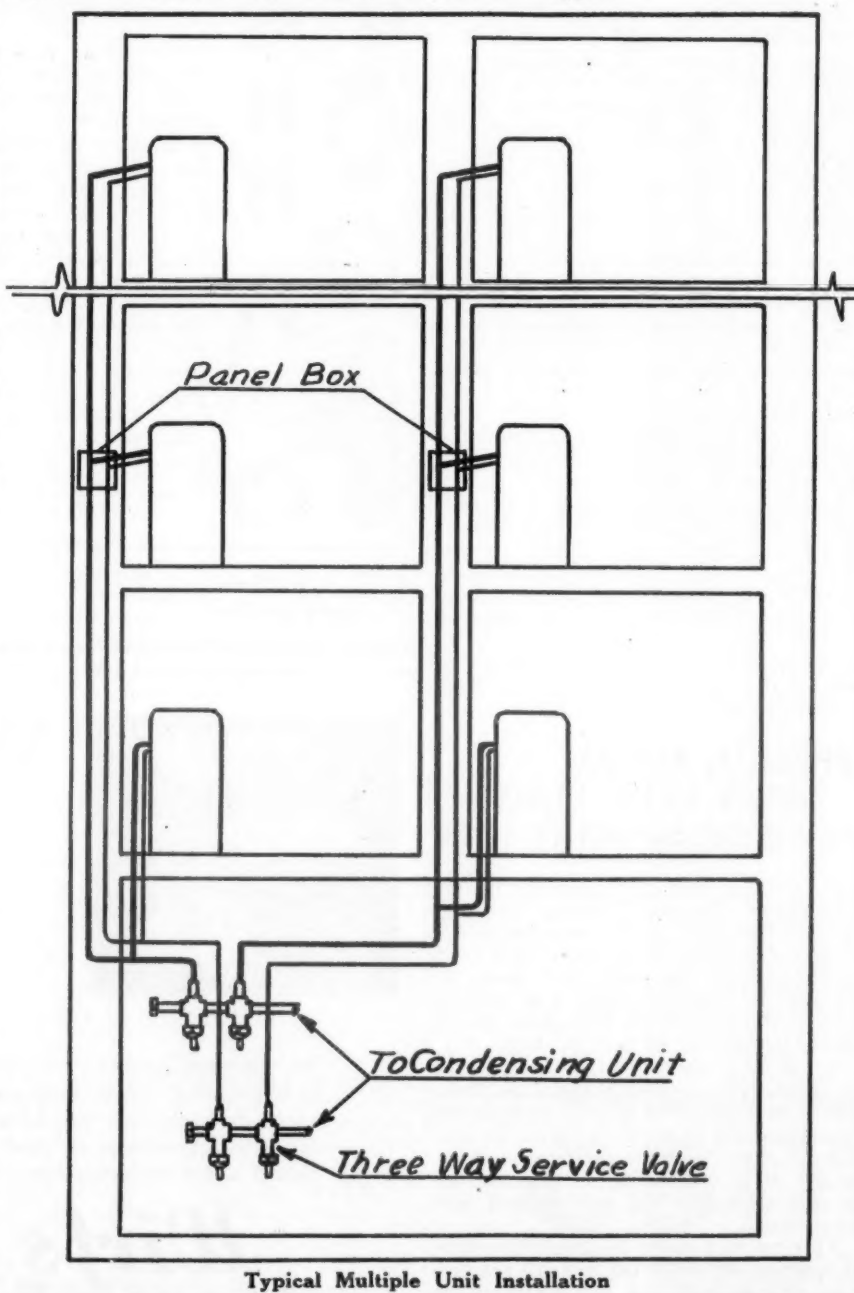
DESCRIBES 3 MAIN TYPES OF APARTMENT HOUSE INSTALLATIONS

(Continued from Page 10, Column 4)

referred to in Lesson No. 19 as published in the August 31 issue of this paper. By total heat leakage is meant the actual heat leakage through the walls, plus 40% for service, plus the number of B. T. U. that must be extracted to freeze the ice in the ice trays. For illustration, let us take as an example a refrigerator located in the central temperature belt, having a cubical content of 8 cubic feet and insulated with fair insulation. Referring to the total heat leakage table we note the total heat leakage for the refrigerator is 13,400 B. T. U. which consists of 9,000 B. T. U. actual heat leakage, 3,600 B. T. U. or 40% for service, and 800 B. T. U. for freezing ice. A condensing unit or condensing units should then be selected which, without operating more than sixteen hours out of the twenty-four, will have sufficient capacity to handle the given load. In selecting the condensing unit, it should be remembered that its capacity is dependent upon the temperature conditions under which it is

continuing to the basement. By referring to the illustration, you will note that each refrigerator is connected to the main suction and liquid lines by means of tee connections made in panel boxes located in the walls directly behind the refrigerators. All connections are made in this manner except for the refrigerators located on the first and top floors. To eliminate the panel box and the necessity of an opening in the wall on the first floor, the two lines are run directly downward from these refrigerators through the first floor and teed in the two main lines in the basement. The lines from the refrigerators on the top floors are run directly to the panel boxes on the floors below. The two main lines from each tier of refrigerators are then connected to the suction and liquid lines of the condensing units by means of three way service valves.

These valves are usually grouped on what is called a manifold board. The manifold board consists of sets of 3 way service valves, a set consisting of 2 valves, one on the $\frac{1}{2}$ " suction line and one on the $\frac{1}{4}$ " liquid line for each tier of refrigerators. These valves control the flow of liquid and gas to and from the cooling unit. When the valve is closed, the flow of refrigerant in the line controlled by the valve is stopped.



required to operate and selection should be governed accordingly.

Installing the Multiple Unit

The installation of the multiple unit refrigerators is somewhat more complicated than the individual unit installation. The suction or $\frac{1}{2}$ " lines and the liquid or $\frac{1}{4}$ " lines are always run vertically downward from the refrigerator located most remote from the condensing units, to the refrigerators directly beneath it, con-

Brine Circulating Systems

Previous to the time when automatic electric refrigeration had been developed to its present perfection, many apartment refrigerators were refrigerated by the brine circulating system. In this type of installation a central refrigerating plant was used to cool a quantity of brine, which was later pumped through insulated pipes to coils in the cooling compartment of the various refrigerators. Valves were placed

within each refrigerator so that it was possible for the apartment owner himself to exert a certain amount of control over the temperature within his own box. Systems such as these, although highly satisfactory in their operation, are rarely installed at the present time on account of the expense entailed in installing the vari-

ous brine circulating pipes and also on account of the attention usually required by this system. As was the case with the multiple system just described, refrigerators in which the brine circulating system is used should be so located that the length of the piping, which must be used to connect them, is a minimum.

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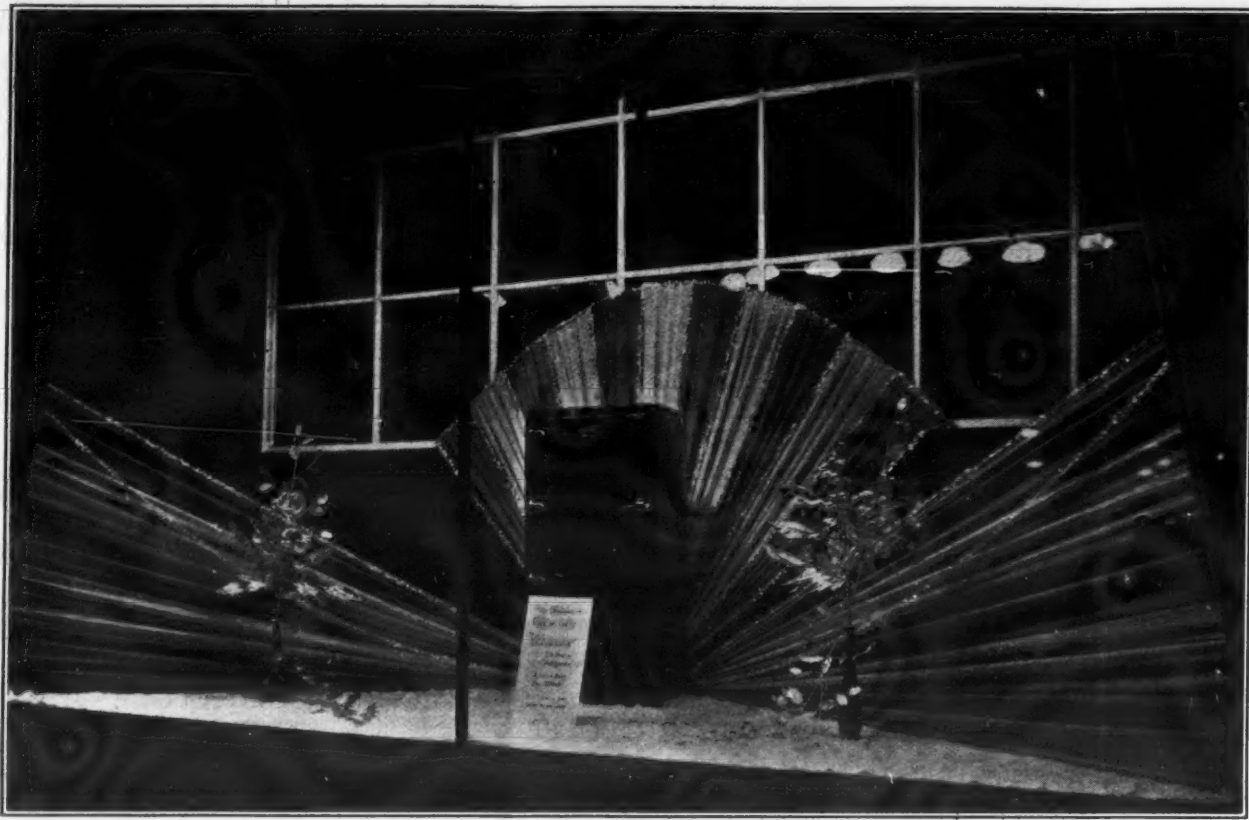
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Inexpensive Display Introduces New Line of Kelvinator Colored Cabinets



The Smith-Winchester Co., Jackson, Mich., used this display in showing for the first time in Jackson, the new Chinese red Kelvinator. The background is formed from crepe paper in French blue and canary yellow, alternating with white crepe and silver tinsel. Artificial snow covers the floor of the window. Materials for the display cost only \$6.05.

HASKELITE APPLIES WAR RESEARCH TO CABINET MANUFACTURE

Principles Used in Making Propellers Applied to Plymetl Cabinet

Of just what importance to the electric refrigeration industry ten years' research work in connection with the use of glue might be is not immediately apparent to most of us. This research, however, falls in line with the activities in developing electric motors, temperature controls, copper tubing, expansion valves, belts and other parts so vital to the proper operation of the completed electric refrigerator.

The perfection of the refrigerating system loses much of its importance if the cabinet itself is poorly constructed, and it is with this thought in mind that the Haskellite Mfg. Corp., of Chicago, continues the research work which it has been carrying on for the past ten years in connection with the manufacture of Plywood, Haskellite and Plymetl. In the war days, when Haskellite was turning out a vast amount of Plywood for aircraft needs, the company felt it vitally necessary to employ capable technical talent to conduct extensive experiments. With the close of the war this work was continued along the same lines so that the staff is made up now of a considerable organization of research engineers.

Included are such men as Prof. Olin Basquin who has an international reputation; Dr. W. A. Drushel, formerly professor of chemistry at Kent School, Yale University; and C. B. Norris, who was in charge of the experimental work of the forest products laboratories at Madison, Wis., during the war.

Study Properties of Glue

These men have sought to discover the physical property values underlying waterproof glues, and plywoods of all combinations, thicknesses and sizes. Also the problems involved in gluing all kinds of metals such as steel, aluminum, monel and copper.

This work has been going on for ten years until at this time a source of information is available which if condensed and bound would make a library on the subject. Panels as large as 8 x 50 feet and requiring several freight cars for transportation are turned out by the company at times. As a daily production proposition, panels are produced for bus and railway coaches large enough to cover the entire roof. Both Plymetl and Haskellite are used as standard panel partitions on such liners as the George Washington and the Leviathan.

Geo. R. Meyercord, president of Haskellite Mfg. Corp., is also founder of the Vitrolite Company which manufacture Vitrolite, a quality material for sanitary purposes used in the soda fountain industry and in refrigerators. This company also possesses its engineering and chemical staff of experts who have collaborated in the manufacture of the Plymetl cabinet.

Special Machines Developed

The factory at Grand Rapids, which is said to be one of the finest manufacturing plants of its size, is about 700 feet long and 300 feet wide. Most of this space is devoted to production so that the capacity of the plant is considerable. Six hydraulic presses are employed which are among

the largest in the world for this purpose, and have a combined capacity for turning out 50,000,000 feet of Plymetl annually.

In developing the Plymetl refrigerator it was necessary for the company to design a large part of the machinery used in its manufacture. One of the machines used was redesigned thirty times before it was put into production.

These few facts only serve to indicate the extent to which manufacturers of electric refrigerators and accessories used in the industry are going and have gone to perfect this product which is now a part of every modern home.

DETROIT COOPERATIVE DISPLAY HAS 8,000 VISITORS FIRST YEAR

Lectures on Frozen Desserts Prove Popular

In a period of slightly less than a year over 8,000 people have visited the electrical exhibit maintained co-operatively by the Detroit Edison Co. and the manufacturers whose products are displayed therein, at 214 Bagley Ave., Detroit, according to M. K. Tompkins, manager of the exhibit.

The attractive display room opened in a new building near the largest and finest theatre in the city is exactly what the name implies—a display room. None of the appliances shown are sold at the exhibit. All prospects who inquire are referred to dealers in the city. Particular care is taken to see that the name of the Detroit Edison Co. is not given preference in referring prospects to local salesrooms.

Being a co-operative exhibit the Detroit Edison Co. stands one-half of the expense of its maintenance, while the manufacturers of the products displayed stand the other half, the amount being pro-rated among them according to the number of products displayed by each. The original cost of equipping the display room made the first year's expense rather high, according to Mr. Tompkins. For this reason, not as many manufacturers' products were included as was desired. However, the second year's expenses, it is expected, will be much less, and with this in view several new manufacturers have signified their intentions of joining the exhibit.

May Allow Manufacturer's Representatives

Up to the present time no manufacturer has been allowed to have a representative of his company at the display for any length of time, the idea in this being, of course, to prevent information being distributed which might be prejudicial in favor of a particular product. However, the Detroit Edison Company and the manufacturers whose products are represented in the display are at this time seriously considering a change in this rule so that each manufacturer will be permitted to send a representative to the exhibit at certain times to address the groups of women who meet there on specified days each week. According to Mr. Tompkins, if the decision falls in favor of this new ruling the talks of the manufacturers' representatives will be closely censored so that no product can be represented as "the best on the market" or described in like phraseology.

Lectures on the use of the various appliances exhibited are given regularly on certain days each week by Miss Hyde, who assists Mr. Tompkins in the display room. Tuesday is electric refrigeration day, at

which time frozen desserts are prepared and served to all those attending. The average attendance at these lectures for the past year has been approximately 28.

Frozen desserts in sufficient quantity to take care of the following day's attendance are prepared by Miss Hyde on Monday. Tuesday afternoon this same dessert is prepared in a smaller quantity before the assembled ladies so that they may see exactly how the desserts which are being served were originally made. The display room is equipped with attractive dishes and glassware, and particular care is taken to see that each lady receives more than just a small spoonful of the dessert being served. In addition to this, a salad and an iced drink are included.

Published Recipes Attract Women

About two months ago a small recipe booklet was published by the exhibit containing all of the recipes which had been made and served in the display room since its opening. Mr. Tompkins commented upon the fact that requests for copies of this booklet, "Frozen Recipes," have been received from all parts of the country, although no mention of the booklet has been made other than at the meetings themselves. A recipe which will be prepared at the electrical exhibit is published at frequent intervals in the Detroit papers with the notation that its preparation may be watched at the display room on a certain date. It has been found that a large percentage of those attending the lectures have come because of these notices. The lectures are also announced by radio, by special invitation and by cards in the display windows of the exhibit.

According to Mr. Tompkins, it is difficult to trace sales directly to the exhibit, but there have been many cases in which people have come into the display room with check in hand and the intent purpose of almost walking out with a refrigerator. In such cases, as was mentioned before, the prospect is referred to any number of dealers who are handling the products desired in this city.

COMMERCIAL NATIONAL SECTION, N.E.L.A., TO MEET IN CHICAGO JAN. 18, 19, 20

A. Jackson Marshall, secretary of the Commercial National Section of the National Electric Light Association, 29 West Thirty-ninth Street, New York City, has announced that the next group of meetings this administrative year will be held in Chicago at the Edgewater Beach Hotel, January 18, 19, and 20, 1928.

In drafting the tentative schedule, an effort has been made to equalize the number of meetings to be held on each of the three days and to avoid, as much as possible, conflicts between committee meetings having much in common. A morning and an evening session has been allotted each committee.

All those who expect to attend this series of meetings are requested to make reservations directly with the Edgewater Beach Hotel, Chicago.

Utilities Men Hear Talk on Refrigeration

On November 17 and 18 the Commercial Section of the Wisconsin Utilities Association met at the Hotel Pfister, Milwaukee. Included in the two-day program was an address by Frank H. Evans, of Wausau, on "Growth of the Electric Refrigeration Load."

O. A. Life Joins Emerson Electric

Oliver A. Life, formerly with the Moon Motor Car Co., St. Louis, has become advertising manager of the Emerson Electric Mfg. Co., of that city, manufacturers of electric motors for electric refrigerators and other appliances. He was at one time with the International Shoe Co., St. Louis.

Servel Leases Warehouse

The Servel Corp. of New York has leased the ground floor, basement and second floor, containing 20,000 sq. ft., in a building at 534-538 West 58th St., New York City. This space is to be used as a service station and warehouse for electric refrigerators.



DOMESTIC REFRIGERATION CONTROLS



No. 97 Surfaceswitch

NO one has any doubt of the value of customer satisfaction but sometimes the means to achieve it are overlooked. A domestic electric refrigerator properly controlled means satisfaction—improperly controlled it is a nuisance.

Investigate the Con-Tac-Tor No. 97 Surfaceswitch. Examine its simplicity—nothing to get out of order. See how easily it can be built into any box. Try it out—note the constant temperature it maintains. Contact trouble is eliminated through the use of the Con-Tac-Tor (mercury switch). Such features mean satisfied users.

The Surfaceswitch is now available at new low prices. May we send you one for trial? Also ask for a copy of Bulletin No. 120b.

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PIPE and TUBE FITTINGS

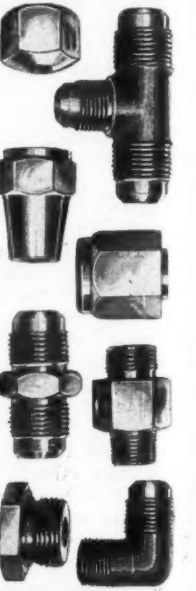


Made From Brass Rod, Castings or Forgings

For many years we have specialized in the manufacture of brass fittings, in small sizes, for connecting brass and copper tubing.

In addition to fittings made from brass rod and castings, we are now producing similar parts made from BRASS FORGINGS to meet the requirements of Iceless Refrigerator Manufacturers for fittings of a superior type. These fittings will not leak gas, air or liquids under mechanical pressure. They have the compact grain structure, high tensile strength and smooth, flawless surfaces found only in forgings. Our forged fittings are accurately machined, carefully inspected and equal to the most exacting requirements.

Send a sample or blue-print for quotations on parts of a special nature. Catalogue No. R-30, showing our complete line of standard fittings will be mailed on request.



COMMONWEALTH BRASS CORPORATION
DETROIT 5781-5835 COMMONWEALTH AVE. MICH.



Wirfs Gasket assures Electrical Refrigeration Efficiency

An electrical unit can only be as efficient as the box in which it is installed. Poor door contacts on wood or metal boxes mean that any unit will have to operate a greater number of hours to maintain an efficient refrigeration temperature. This means added operating cost.

Wirfs PATENTED "AIRTITE" Gasket

Keeps the cold air in and the warm air out and maintains the proper zone of refrigeration with fewer operating hours. Wide awake dealers have found that it usually clinches the sale. Most manufacturers supply boxes equipped with Wirfs; write us for their names and a sample.

E. J. WIRFS ORGANIZATION, Inc., 135 S. 17th St., St. Louis, Mo.

Refrigerated Truck Preserves Ice Cream Perfectly on Cross Country Trip of Nearly 2000 Miles



Visitors to the Dairy Industries Exposition held in the Cleveland auditorium October 24-29, were much surprised on visiting the John J. Grothe Company, Inc., exhibit, to be offered ice cream that had been made in Boston, shipped by water to Jacksonville, Fla., and then hauled by truck to Cleveland. The ice cream offered to the visitors was more than two months old and was in perfect condition.

This unique stunt was made possible by the use of Zero mechanically refrigerated bodies made by the Grothe Company, Woburn, Mass. The ice cream was first shipped September 27 in a 1,000-gallon refrigerator from Boston to Jacksonville via the Clyde Steamship line. This Zero

refrigerator was operated by direct expansion in continuous coils and the compressor was run by a 1/2 h.p. motor thermostatically controlled.

When the ice cream was received at Jacksonville it was transferred to the Zero Pioneer mechanically refrigerated truck body. On October 17 the truck was run over the road to Cleveland, where it was placed in the Grothe company's booth in the public auditorium and it maintained a temperature of 18 degrees below zero during the convention. This Pioneer body had been working on regular routes between Jacksonville and St. Petersburg, Fla., previously to making the Cleveland trip.

In 1925 the Pioneer truck was shown at the Detroit Ice Cream Convention for the first time. From October of that year to October the following year, it was in use throughout different sections of the country on ice cream routes. In 1926 this truck was driven from Woburn, Mass., to Detroit and back to Woburn, a distance of 1,965 miles. This was made during a period of 41 days. The ice cream was carried in this truck throughout the trip, and upon returning to Massachusetts an analysis showed that there had been no melting or refreezing. A portion of the time this or re-freezing. A portion of the time this truck was in the heated exhibition hall at Detroit.

"Missing ELECTRIC REFRIGERATION NEWS is like missing your breakfast in the morning."—G. E. Osborn, Manager, Kelvinator Sales Co., Jacksonville, Fla.

CENTRAL STATIONS FOLLOWING N. E. L. A. APPLIANCE PROGRAM

Results Show Campaign Paid Dividends Last Year

The Plan Book, recently issued by the Commercial National Section of the National Electric Light Association, covering concurrent advertising campaigns for 1927-1928, indicates again the value of concentrated effort accompanied by consistent advertising.

J. E. Davidson, chairman of the Commercial National Section of the N. E. L. A., introduces the book with an endorsement of the plan and a request that central station commercial executives and all manufacturers of the items included in the plan, co-operate in making these campaigns effective and mutually beneficial.

The program as laid out by the general merchandising committee for 1927-1928 was worked out with the idea of getting one that would fit the needs of the greatest number of communities. The general program is as follows:

- June—Bridal gifts.
- July—Electric cookers (electric ironers, secondary).
- September—Convenience outlets.
- October—Electric heaters (portable lamps, secondary).
- November and December—Christmas gifts.
- February—Waffle irons (toasters, secondary).
- March—Toasters (percolators, secondary).
- April—Percolators.

Manufacturers of the appliances listed above have been requested to arrange their advertising so that it would appear during the period specified on the concurrent advertising program. According to the report, many have promised to do this.

In connection with the national advertising being done by manufacturers during the coming year, central stations co-operating will tie in with this national advertising through the use of local newspaper advertisements, direct mail campaigns, special window displays and demonstration days.

Results of 1927 Campaign

Tabulated results of campaigns put on by a number of companies who tied in with concurrent advertising in February, March and April, 1927, are included in the new plan book. Quotas in practically every instance were exceeded by a healthy margin. One of the outstanding results of this survey is the discovery that satisfactory sales of devices can be obtained without the use of house to house salesmen and extensive newspaper advertisements. In the case of the Nebraska Gas & Electric Co., taking only one appliance, the percolator, a bogie of 150 was overrun by total sales of 189. No house to house salesmen or newspaper advertising was used; 20,000 copies of a broadside covering a number of appliances had already been mailed out and when the campaign on the percolator was introduced, special window displays were used by the company.

The Northern States Power Co., with a quota of only 882 toasters, sold nearly double that figure or 1,626 with a newspaper campaign of 600 inches and by sending 150,000 broadsides to their prospects. This brought a total business of nearly \$2,500.

C. F. KETTERING GIVES \$300,000 TO COLLEGE FOR SCIENCE BUILDING

C. F. Kettering, Dayton, Ohio, head of the General Motors research bureau, has recently donated the sum of \$300,000 to Antioch College at Yellow Springs, Ohio, for the construction and equipment of a new science building, it was announced by Arthur E. Morgan, president of the institution.

The erection of the new building will provide greater facilities for chemistry, physics, biology, geology and psychology departments, giving both students and professors greater opportunities for research work. The school, which at the present time has an enrollment of 688, is outstanding, due to the fact that the majority of these students are working their way through. A plan has been worked out whereby two students working together can divide their time between class room work and work in a position with some company in which they can apply the principles learned and at the same time be self-supporting.

The idea has worked out so successfully under the direction of President Morgan that present facilities are inadequate. The gift of the new building by Mr. Kettering will mark the beginning of an expansion program which the school has had in mind for some time, but which it has been unable to put into realization because of lack of funds.

SAYS ARKANSAS DAIRIES OFFER VALUABLE MARKET

According to W. F. Moody, who heads the B. F. Moody Co., engineers and contractors, Little Rock, Ark., the state in which this company is located provides a fine market for refrigerating equipment of the type used in dairy farms. Mr. Moody predicts a flourishing business for the builders of refrigerating machinery who will go into Arkansas and do educational work and preach the benefits as well as necessity for mechanical refrigeration to the dairy industry and allied lines. His appreciation of modern improvements of all kinds is evidenced in his use of an airplane for considerable of his traveling.

Ice Men Meet in New York

The Eastern Ice Association, representing the ice and refrigeration interests in the seaboard states, from New York to Virginia, held its twenty-first annual meeting at the Hotel Pennsylvania, New York, beginning November 29 and lasting through December 1.

Delegates were present from New York, New Jersey, Pennsylvania, Delaware, Virginia and the District of Columbia.

TELLS HOW LACQUER FINISH SHOULD BE USED

The problems of the manufacturer of electrical equipment in securing the proper finish for his particular product are told of in an article entitled "Finish Helps Sell the Product," by William Crawford Hirsch, in the November issue of *Electrical Record*. A photograph of a Servel refrigerator finished with Duco and another of the futuristically finished General Electric refrigerator which appeared originally on the front page of *ELECTRIC REFRIGERATION NEWS* in the September 14 issue accompany the story.

While the facts as presented deal primarily with the application of the original finish to the equipment, they will nevertheless be adaptable to the situation of the dealer or distributor who finds himself with a number of cabinets on hand which simply require a new finish to place them in the class of new equipment. Among the considerations included in the article are the sources of materials used in finishing, time needed for drying, the necessity of a clean surface, the properties of lacquer, spraying apparatus, and the dangers of blushing.

PETERSON SPRING COMPANY

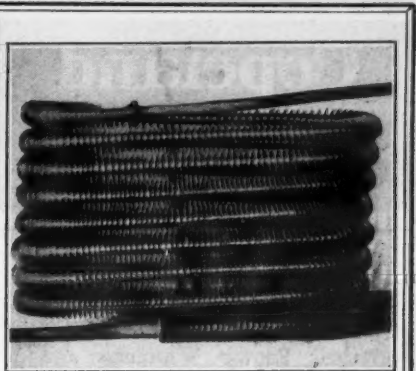
Spring Makers

1662-1664 Beard Avenue
DETROIT, MICHIGAN

KERO TEST

FORGED BRASS VALVES for Mechanical Refrigeration

Quality Shut-off and Cylinder valves in any standard designs or to your specifications.
KERO TEST MANUFACTURING CO.
2525 LIBERTY AVENUE
PITTSBURGH, PENNA.



ROME CONDENSERS

are formed in any shape of one piece of seamless copper tubing, fitted with heavy gauge copper radiating fin. Rome condensers are five times as efficient as plain tubes

Rome-Turney Radiator Company
ROME, N. Y.

Guard Against Leaks!

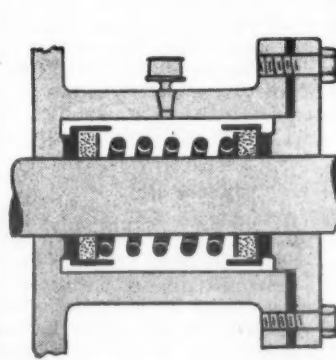
Your most frequent service problem

By one small addition to your machine, you can eliminate completely the most frequent single cause of dealer "grief" and consumer dissatisfaction. By actual check-up, it has been found that 27.6% of all customer complaints about their electric refrigerating systems are due to leaking refrigerant and 12.7% to the odor from leaking refrigerant. Thus over 40% of all repairs, servicing and complaints are the result of just one mechanical defect, which you can now eliminate at a trifling cost.

By the installation of the Cooke Seal Ring in the stuffing box, you can prevent for all time the possibility of refrigerant leaks and at the same time re-

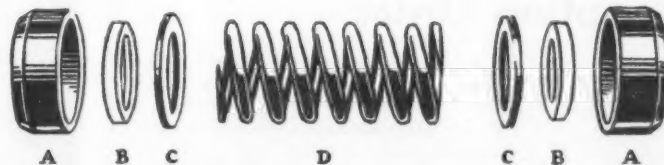
duce motor load and friction by 90%. The Cooke Seal Ring is today in worldwide use on pumps, compressors, electric refrigerators—wherever a leakless pressure (or vacuum) must be maintained around a revolving shaft.

In actual use on electric refrigerators Cooke Seal Rings have stood idle for a year and a half without loss of any pressure and they have also operated steadily for five years with no appreciable wear—and no leakage!



Get the facts! Remedy the greatest single fault of most electric refrigerators by sending for the interesting booklet we have just issued. Tells all about the Cooke Seal Ring.

- a—The Cooke Seal Ring, itself.
- b—Rubber packing.
- c—Follower ring.
- d—Helical spring.



The entire assembly is lubricated and sealed with oil from the stuffing box, now used as an oil reservoir.

COOKE Seal Ring

20 NORTH GREEN STREET
CHICAGO, ILLINOIS

COOKE SEAL RING,
20 North Green St., Chicago
Please send me your FREE booklet without obligation.

Name.....
Address.....
City..... State.....

ROTATES WITH

THE SHAFT